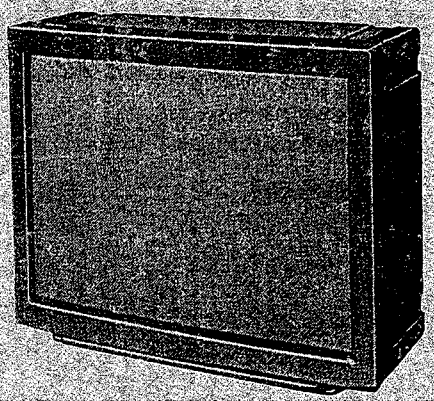
Service Manual

Colour Video Monitor

FT-2900/2900G

G...U.K. Only

G16M Chassis



The service technician is required to read and follow the "Safety Precautions" and "Important Safety Notice" in this service manual.

Specifications

System: 4 colour TV system (PAL/SECAM/NTSC 3.58/NTSC 4.43)

Power Source: 220—240V~, 50Hz (240V...U.K. Only)

Power consumption: 85W

Picture Tube: 340 Sq. inches (29" diagonal), 110-degree deflection

Speaker Output Terminals: 10W (5W+5W)

Input/Output Terminals

- **Line A:**
  - **Video Input/Output;** 1.0Vp-p, 75Ω or high-impedance (Auto), BNC type connector
  - **S-Video Input/Output;** Y signal 1.0Vp-p, C signal 0.286Vp-p, 75Ω or high impedance (Manual), Mini DIN 4P type connector
  - **Audio Input:** 0.5Vrms, 22kΩ or more, phono type connector
- **Line B:**
  - **Video Input/Output;** 1.0Vp-p, 75Ω or high-impedance (Auto), BNC type connector
  - **Audio Input:** 0.5Vrms, 22kΩ or more, phono type connector
- **RGB:**
  - **RGB Input;** 0.7Vp-p, 75Ω, BNC type connector
  - **Sync. Input;** 0.3~5.0V, Composite Sync., BNC type connector
  - **Audio Input;** 0.5Vrms, 22kΩ or more, phono type connector
- **YS:**
  - **YS Input;** 1~3V (DC pulse signal), BNC type connector
- **ABL Interconnection: Input/Output;** Phono type connection

Panasonic

• **Remote 1 Input:**
(for External control)

Terminal	input selection		
	Line A	Line B	RGB
R1	Short to Earth	Open	Short to Earth
R2	Open	Short to Earth	Short to Earth
R3	Short to Earth: ABL connection ON open: ABL connection OFF		

• **Remote 2 Input:**
(for Remote control unit) M3 type connector

Resolution: More than 700 TV lines (Horizontal)

Dimensions:

Width; 63.9cm (25-5/32 inches)

Height; 51.1cm (20-1/8 inches)

Depth; 50.5cm (19-7/8 inches)

Weight: 45kg (99-3/16lbs)

Operating Temperature: 32°F~104°F (0°C~+40°C)

Operating Humidity: 20%~80%

Accessories: Stabilizer kit, Remote control unit, Remote control cord 5m (16.4ft)

Batteries for Remote control unit (AA: UM-3)...2pcs.

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

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Safety Precaution

GENERAL GUIDELINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields, and isolation R-C combinations, are properly installed.
4. Before turning the monitor on, measure the resistance between B+ line and cold side chassis earth. Connect the ⊖ side of an ohmmeter to the B+ lines, and the ⊕ side to chassis earth. Each line should have more resistance than specified, as follows:

B+Line	Minimum Resistance
116V (IC804 ①)	15kΩ
24V (IC751 ③)	3kΩ
20V (TPA85)	1kΩ
14V (IC802 ①)	100Ω
12V (IC802 ③)	100Ω

5. When the monitor is not used for a long period of time, unplug the power cord from the AC outlet.
6. Potentials, as high as 30.5kV±1.5kV are present when this monitor is in operation. Operation of the monitor without the rear cover involves the danger of a shock hazard from the monitor power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to chassis earth before handling the tube.
7. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the monitor's power switch.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the monitor, such as screwheads, connectors, control shafts, etc.
   When the exposed metallic part has a return path to the chassis, the reading should be more than 4MΩ.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

LEAKAGE CURRENT HOT CHECK (See Fig. 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 kΩ, 10 watt resistor, in parallel with a 0.15 μF capacitor, between each exposed metallic part on the set and a good earth such as a water pipe, as shown in Fig. 1.
3. Use a high impedance AC voltage meter to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 500μA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the monitor should be repaired and rechecked before it is returned to the customer.

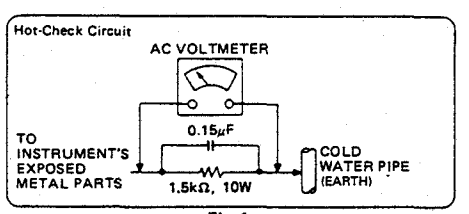


Fig. 1

X-RADIATION

WARNING: 1. The potential source of X-Radiation in Monitor set is the High Voltage section and picture tube.
2. When using a picture tube test jig for service, make sure that the jig is capable of handling 32.0 kV without causing X-Radiation.

NOTE: It is important to use an accurate, periodically calibrated high voltage meter.

1. Set the Brightness control the Contrast control and the RGB Contrast control to minimum position.
2. Measure the High Voltage. The meter (electrostatic type) reading should indicate 30.5kV±1.5kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

HORIZONTAL OSC. DISABLE CIRCUIT TEST

This test must be made as a final check before the set is returned to the customer.

1. With the rear cover removed, supply a nominal 220–240V AC to the set, turn on the power switch.
2. Set the customer controls to their normal operating position.
3. Add DC voltage (+25V) to pin ④ of IC551.
4. Confirm that the picture falls out of horizontal sync.
5. If this does not occur, the Horizontal Osc. Disable Circuit is not operating. Follow the Horizontal Oscillator Disable Circuit Repair Procedures before the set is returned to customer.

REPAIR PROCEDURES OF HORIZONTAL OSCILLATOR DISABLE CIRCUIT

1. Connect a DC voltmeter between capacitor C515 ⊕ on the A-board and chassis earth. If nearly +24.7V is not present on that point, find the cause.
   Check R521, C515 and D558.
2. Connect a DC voltmeter between pin ⑮ of IC501 on the A-board and chassis earth.
   If nearly +3.0V is not present on that point, check R509, R510, R512, R542, IC551 and IC501.
3. Carefully check the above specified parts and related circuits and parts. When the circuit is repaired, the Horizontal Oscillator Disable Circuit Test must be made again.

Circuit Explanation

HORIZONTAL OSCILLATOR DISABLE CIRCUIT

The positive DC voltage supplied from the cathode of D558 for monitoring the high voltage is applied to pin ④ of IC551 through R521 and to the base of Q903 through R909.

The voltage at the emitter of Q903 is regulated by Zener Diode D901. Under normal conditions, the voltage applied across the base and emitter of Q903 is not sufficient to cause emitter current to flow and holds the transistor cut off.

If the high voltage exceeds the specified level, the positive DC voltage supplied from the cathode of D558 increases. The voltage through D558 and R521 is dividing by R909 and R908, and applied to the base of Q903. If Vbe is nearly more than +0.7V, the transistor Q903 turns on, and the collector voltage of Q903 lowers which is connected to the base of Q902.

Therefore Q902 turns on, and the collector voltage of Q902 increases, which is connected to the base of Q901. Consequently Q901 turns on, and collector current of Q901, which is connected to the pin ⑮ of IC501, begins to flow simultaneously. This causes the horizontal oscillator frequency to increase, and also causes loss of horizontal synchronization. (Fig. 2)

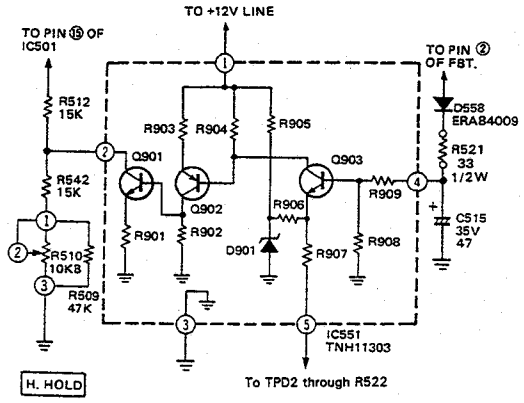
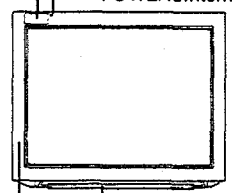


Fig. 2

Location

Front View



REMOTE CONTROL SENSOR
Receives the remote control unit's operation signals during wireless remote control.

STAND BY Indicator
Lights only when the MAIN POWER switch is ON.

TILT ARM
Used to tilt the monitor upward.

DETACHABLE MASK
The mask can be detached.

POWER Indicator
When the monitor's power is ON, the STAND BY indicator will turn OFF and this indicator will light.

MAIN POWER Switch
This switch is the monitor's MAIN POWER ON/OFF.

POWER Button
Turns the POWER ON/OFF.
This button will function when the MAIN POWER is ON.

SIZE Button
Sets the mode for adjusting the horizontal position, horizontal amplitude, and vertical amplitude.

DEGAUSS Switch
Demagnetizes the picture tube.

BAND WIDTH Button
Sets the band width to WIDE or NARROW.

REMOTE 2 Terminal
For wired remote control, the remote control cord is connected to this terminal.

S-VIDEO Input / Output Terminals
The LINE A S-VIDEO signal cable is connected to this terminal.

LINE A Signal Switch
Selects either S-Video or Video Input when Line A is set with the input button

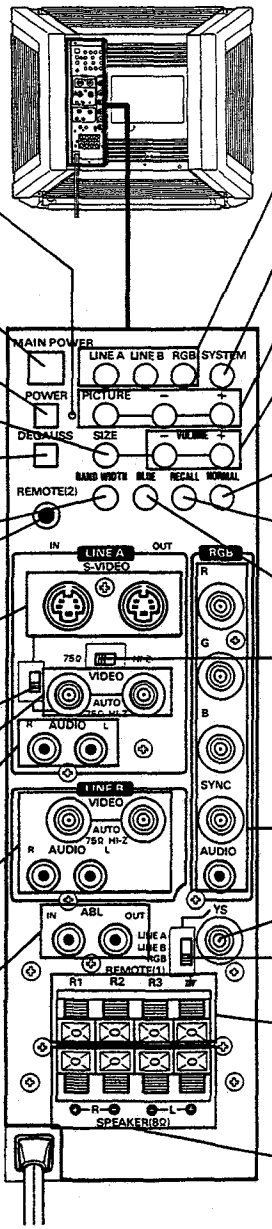
VIDEO Input / Output Terminals
The LINE A video signal cable is connected to this terminal.

AUDIO Input Terminals
Audio input terminal for LINE A.

LINE B Terminals
The video signal and audio signal cables for LINE B are connected here.

ABL INTERCONNECTION SIGNAL I/O Terminal
Used for making the brightness uniform for multiple interconnected monitors.

Rear View



INPUT SELECTOR Buttons
Selects the signal to be received.

SYSTEM Selector Button
Selects the compatible system format (NTSC 3.58, NTSC 4.43, PAL, or SECAM).

PICTURE Buttons
Adjusts the colour tone, tint, brightness, and picture characteristics.

VOLUME Buttons
Adjusts the volume of the speakers connected to the monitor's external speaker terminals. The button also adjusts the adjustment item selected with the SIZE button.

NORMAL Button
Resets the picture adjustment items to the standard settings set upon factory shipment.

RECALL Button
Displays the input being received and the system format on the monitor.

BLUE Signal Only Button
Displays a black and white screen driven by a blue signal.

S-VIDEO Impedance Switch
Set this switch to 75 ohm when only the S-VIDEO input terminal (IN) is used.

RGB Input Terminals
Inputs the RGB signal and audio signal.

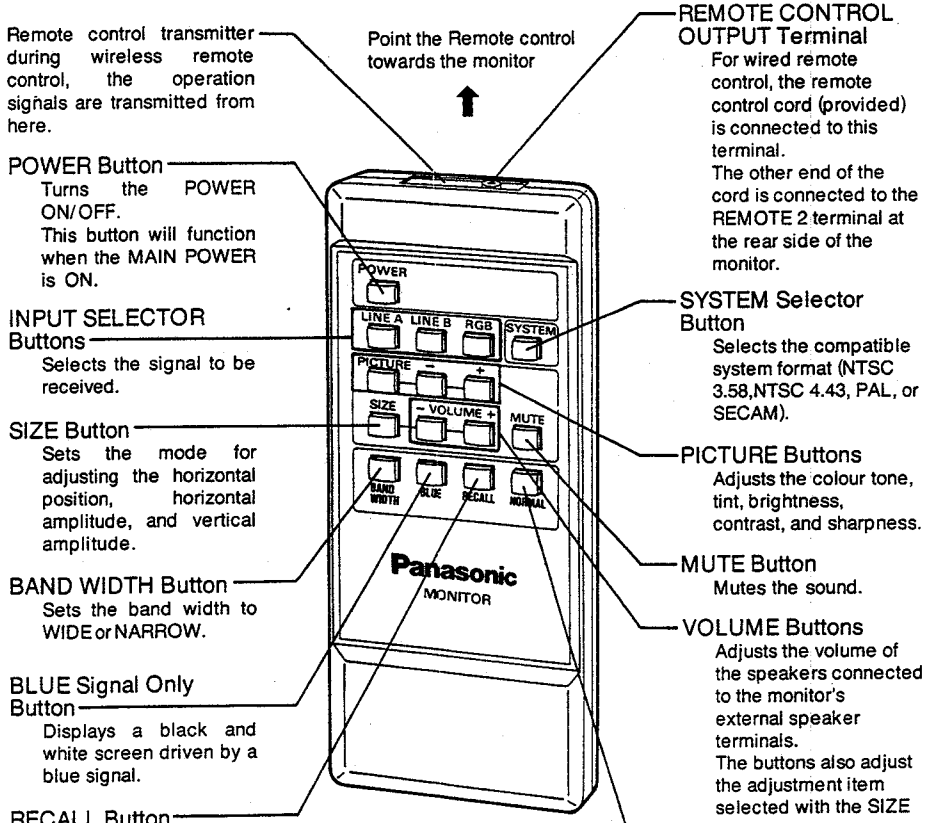
YS Input Terminal
Inputs the YS signal for superimposition.

SUPERIMPOSITION Switch
Selects the input signal to be superimposed.

REMOTE 1 Terminals
Used for switching the input through external control or for controlling the ABL interconnection function when multiple monitors are used.

EXT. SPEAKER Terminals
External speakers are connected to these terminals.

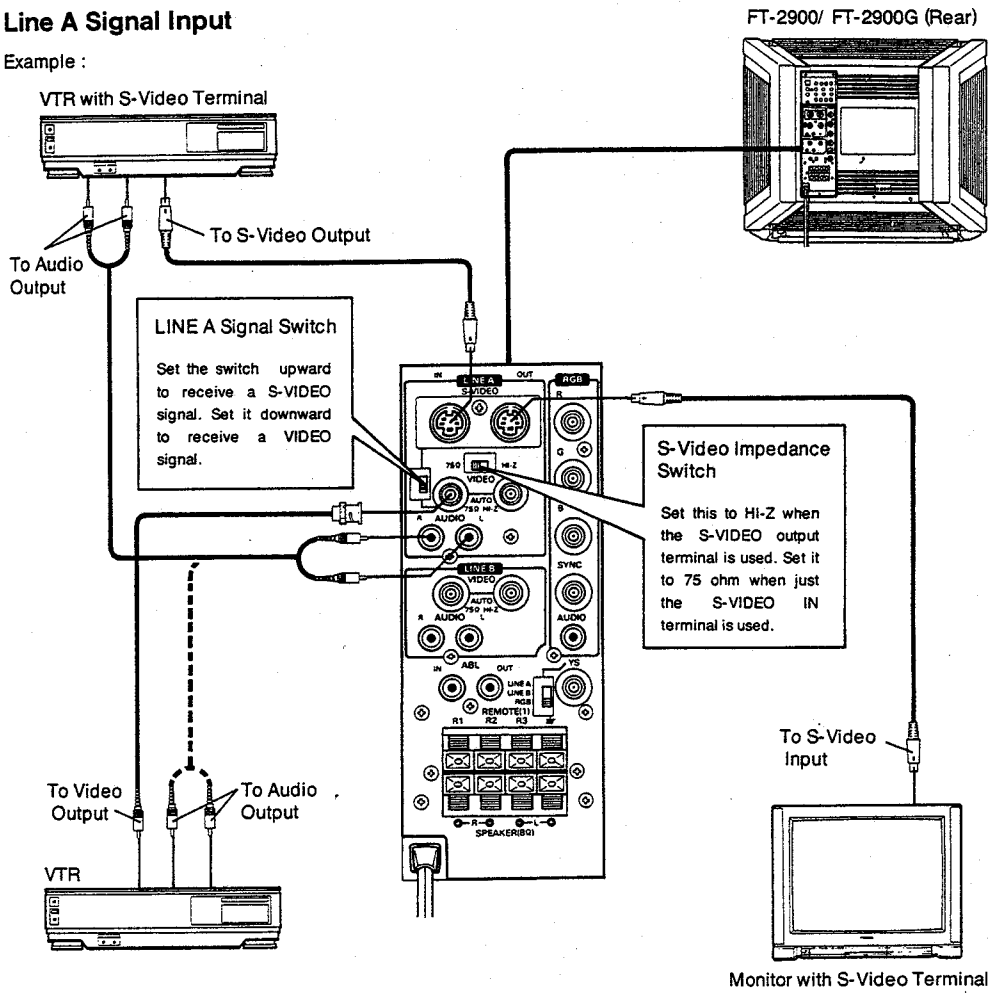
Remote Control


Remote control transmitter during wireless remote control, the operation signals are transmitted from here.
Point the Remote control towards the monitor
REMOTE CONTROL OUTPUT Terminal
For wired remote control, the remote control cord (provided) is connected to this terminal.
The other end of the cord is connected to the REMOTE 2 terminal at the rear side of the monitor.
POWER Button
Turns the POWER ON/OFF.
This button will function when the MAIN POWER is ON.
INPUT SELECTOR Buttons
Selects the signal to be received.
SYSTEM Selector Button
Selects the compatible system format (NTSC 3.58,NTSC 4.43, PAL, or SECAM).
SIZE Button
Sets the mode for adjusting the horizontal position, horizontal amplitude, and vertical amplitude.
PICTURE Buttons
Adjusts the colour tone, tint, brightness, contrast, and sharpness.
MUTE Button
Mutes the sound.
BAND WIDTH Button
Sets the band width to WIDE or NARROW.
VOLUME Buttons
Adjusts the volume of the speakers connected to the monitor's external speaker terminals.
The buttons also adjust the adjustment item selected with the SIZE button.
BLUE Signal Only Button
Displays a black and white screen driven by a blue signal.
RECALL Button
Displays the input being received and the system format on the monitor.
NORMAL Button
Resets the picture adjustment items to the standard settings set upon factory shipment.
POWER
LINE A LINE B RGB SYSTEM
PICTURE
SIZE
VOLUME
MUTE
BAND WIDTH
BLUE
RECALL
NORMAL
Panasonic
MONITOR

Connections

Line A Signal Input

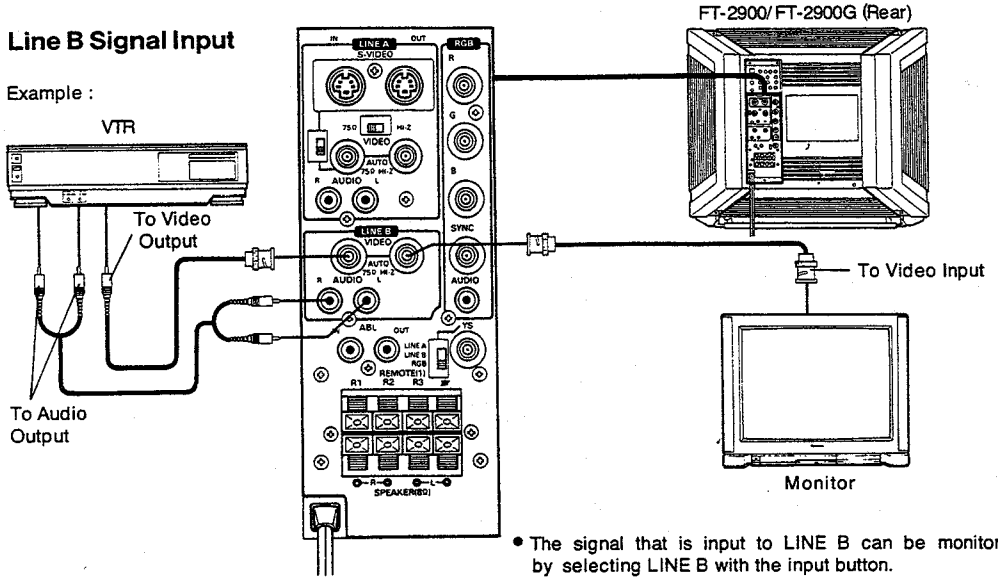
Example :


FT-2900/ FT-2900G (Rear)
VTR with S-Video Terminal
To S-Video Output
To Audio Output
LINE A Signal Switch
Set the switch upward to receive a S-VIDEO signal. Set it downward to receive a VIDEO signal.
S-Video Impedance Switch
Set this to HI-Z when the S-VIDEO output terminal is used. Set it to 75 ohm when just the S-VIDEO IN terminal is used.
To S-Video Input
To Video Output
To Audio Output
VTR
Monitor with S-Video Terminal

- There is only one audio input circuit for Line A . Therefore, if both the video signal cable and S-VIDEO signal cable are connected, the audio input must be switched accordingly.
- For stereo sound, connect the L (left) and R (right) terminals. For monaural sound, connect either the L or R terminal. Or connect a forked cable (one plug on one end and two plugs on the other end) to the R and L terminals.
- The signal that is input to LINE A can be monitored by selecting LINE A with the input button.
- The sound will be output from the speakers connected to the external speaker terminals on the monitor.

Line B Signal Input

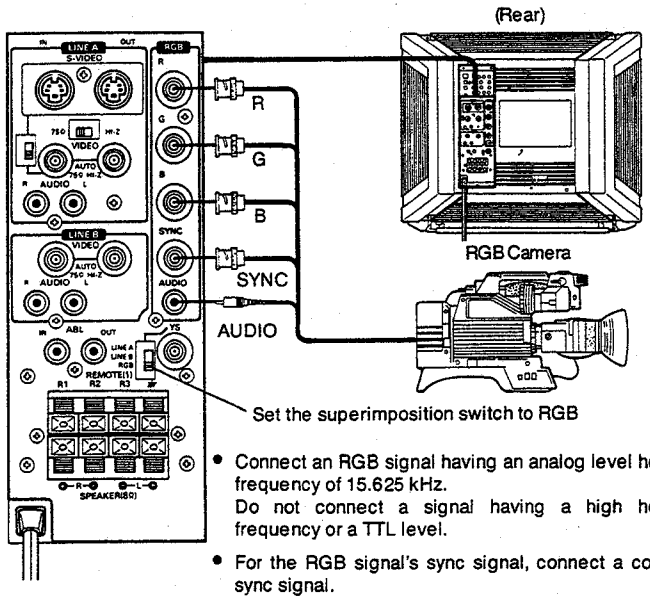
Example :



- The signal that is input to LINE B can be monitored by selecting LINE B with the input button.

RGB Signal Input

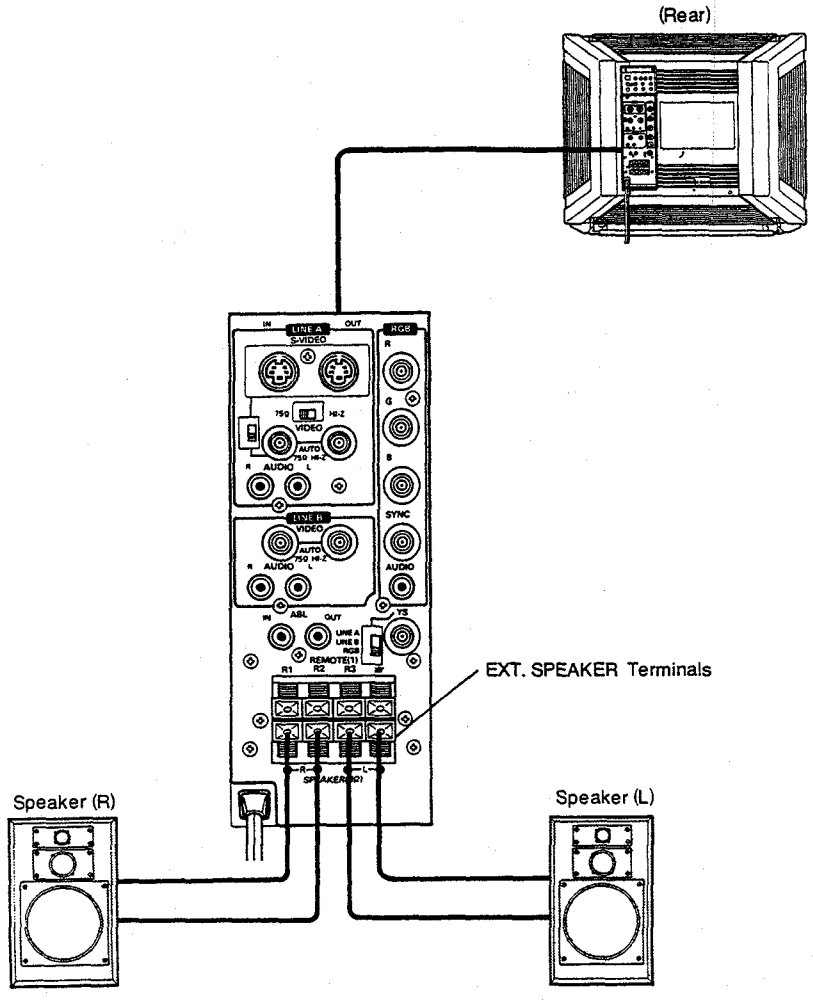
Example :



- Connect an RGB signal having an analog level horizontal frequency of 15.625 kHz.
  Do not connect a signal having a high horizontal frequency or a TTL level.
- For the RGB signal's sync signal, connect a composite sync signal.
- Connect the monaural audio.
- If the RGB signal to be connected is not for superimposition, set the superimposition switch to RGB.
  Refer to page 12 regarding the superimposition procedure.

Connection of the External Speakers

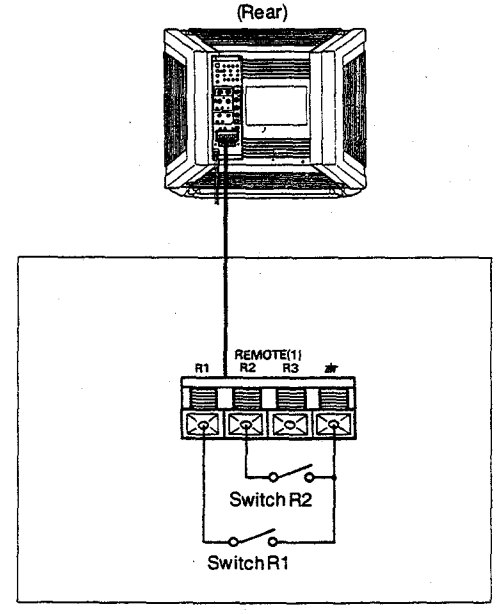
Example :



Without an external speaker, there will be no sound.

- Connect a speaker having an impedance of 8 ohm and a maximum audio output of 5 W (EIAJ) or more.
- Properly connect the speaker wires to the positive and *negative terminals.*

How to use the REMOTE 1 Terminals



As shown in the diagram, remote control of the input source can be achieved by connecting 2 pushbutton normally-open (PBNO) switches from the R1 and R2 terminals to earth. The inputs are selected as follows:

Line A	select by depressing R1.
Line B	select by depressing R2.
RGB	select by depressing R1 and R2 at the same time.

External Control Switch

If necessary, the pushbutton switches can be replaced with standard, bi-stable SPST switches. These will select the input source according to the table as shown on the right.

By setting the R1 and R2 switches Open or Closed, the input can be set as follows:

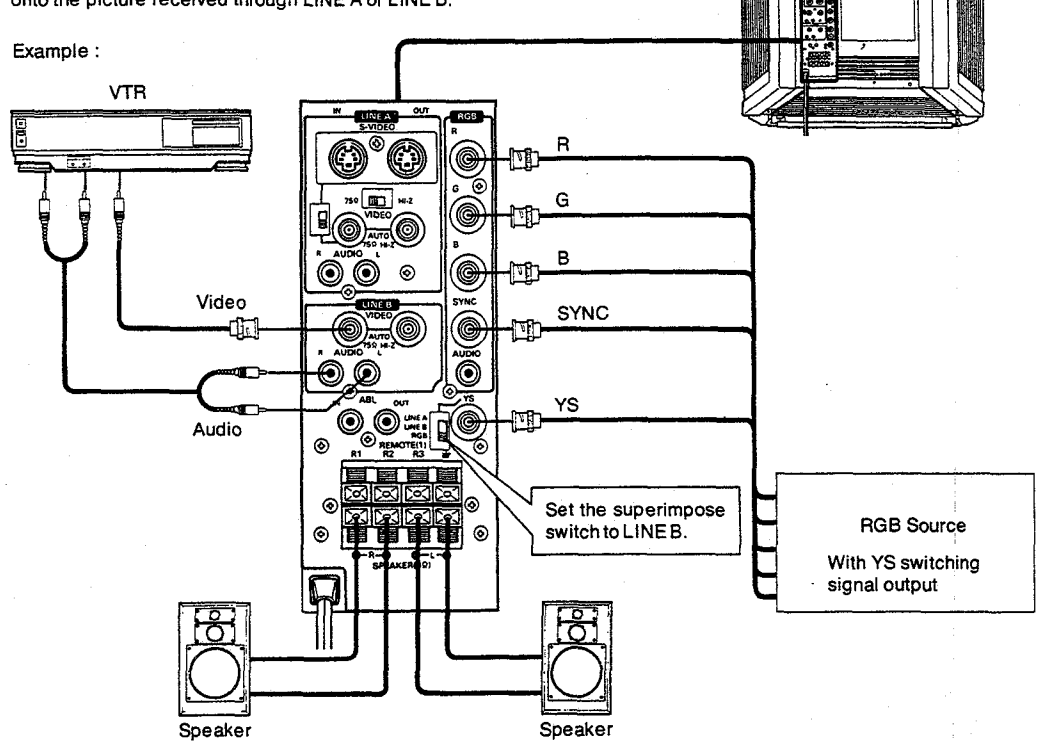
Input \ Switch	Switch R1	Switch R2
Line A	Closed	Open
Line B	Open	Closed
RGB	Closed	Closed
No external control	Open	Open

Note: There are, however, several problems when connecting standard SPST switches. By substituting a closed switch on the R1 or R2 inputs, the switch sensing circuitry of the monitor is disturbed. As a result, the remote control unit, the on-screen display, and the pushbuttons on the rear of the monitor are disabled. It is therefore recommended that pushbutton momentary switches be used as the preferred choice for remote input switching.

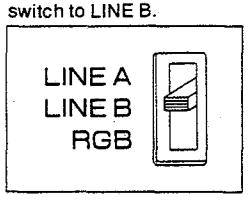
How to use the superimpose function

The monitor can superimpose RGB signal subtitles, etc., onto the picture received through LINE A or LINE B.

Example :



Set the superimpose switch to LINE B.



The superimpose switch selects the signal onto which the RGB signal is to be superimposed.

LINE A . . . When the input is set to LINE A, the superimposition will be executed on the signal input to LINEA.

LINE B - When the input is set to LINE B, the superimposition will be executed on the signal input to LINEB.

RGB - -Superimposition cannot be done on this signal. If the input is set to RGB, only the RGB signal to be superimposed will be displayed on the monitor.

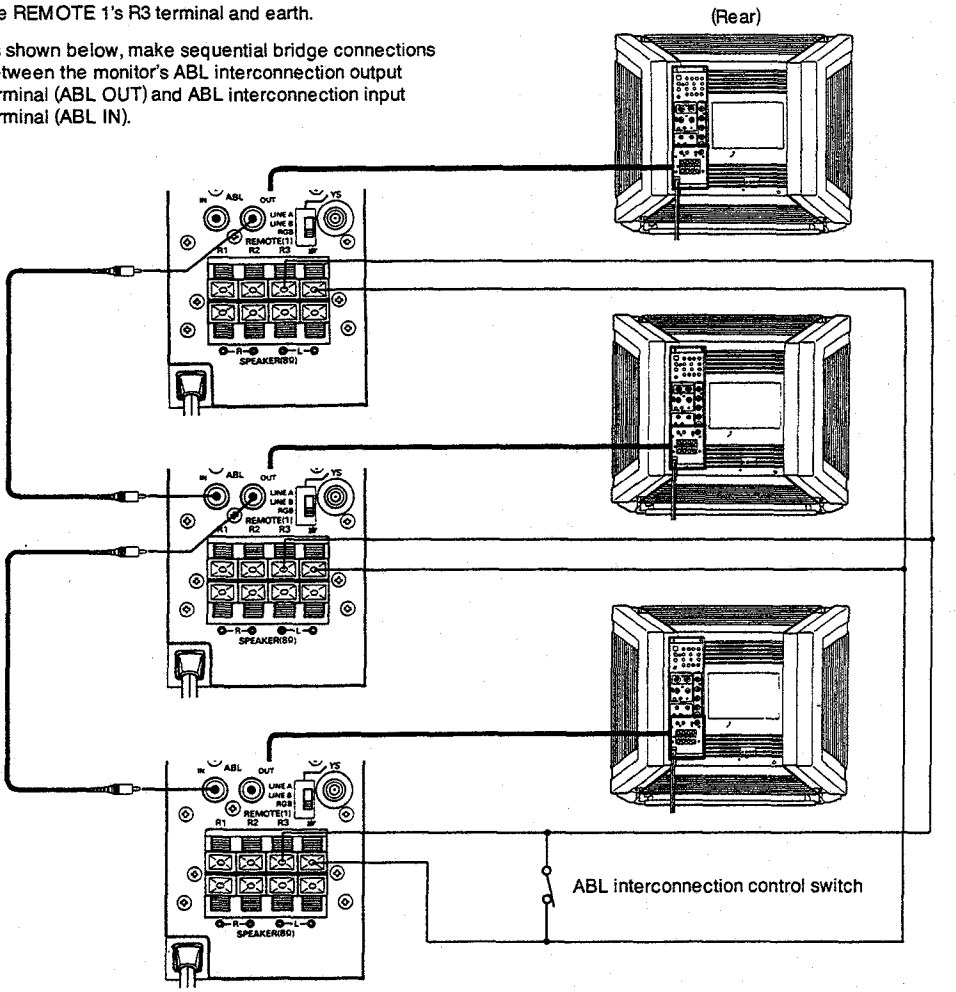
- Connect a superimposition RGB signal having an analog level horizontal frequency of 15.625 kHz.
- Since a YM signal cannot be input, the background of the superimposition cannot be made a halftone.
- If the video signal and RGB signal are from different devices, a genlock-equipped TBC must be connected.

How to use the ABL Interconnection

The ABL interconnection function automatically adjusts the disparity in picture brightness among multiple monitors interconnected in a multi-vision system.

The ABL interconnection function is controlled by using REMOTE 1's R3 terminal and the ABL interconnection signal I/O terminal (ABL IN OUT).
This function will not work if only one monitor is used.

- Connect an ABL interconnection control switch between the REMOTE 1's R3 terminal and earth.
- As shown below, make sequential bridge connections between the monitor's ABL interconnection output terminal (ABL OUT) and ABL interconnection input terminal (ABL IN).



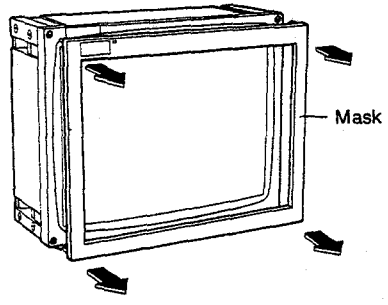
Turn on the ABL interconnection control switch between the REMOTE 1's R3 terminal and earth to operate the ABL interconnection function. If this switch is OFF, the ABL interconnection function will not work.

Installation

How to Detach the mask

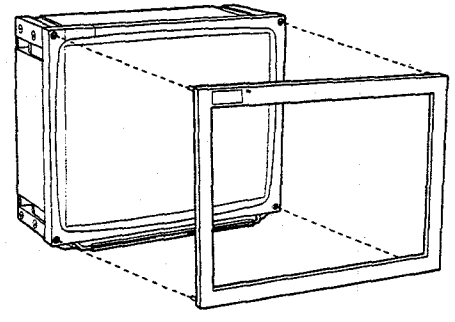
It is possible to detach the mask and use the monitor without the mask.

To detach the mask, pull the four corners of the mask.



How to Reattach the mask

To reattach the mask, insert the mask's corner pins into the monitor's corner holes and push in the mask.



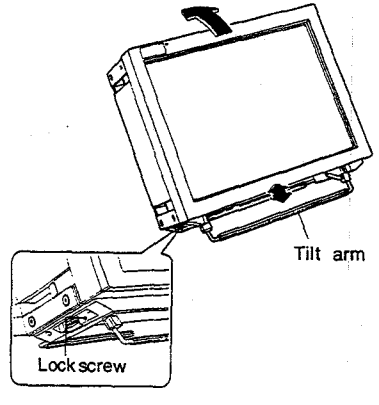
Tilting Function

The monitor is equipped with a tilt arm which can tilt the monitor 16 degrees upward.

The tilt angle can also be adjusted to 10 degrees by using the stabilizer kit (provided).

Caution:

The monitor weighs 45kg (99-3/16 lbs). Be sure to have two people tilting the monitor. Be careful not to insert your hand between the monitor and the stand or between the tilt arm and the monitor.



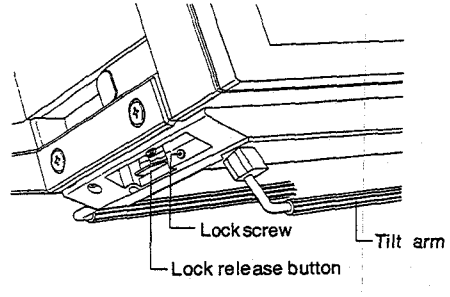
While tilting the front of the monitor upward, pull down the tilt arm until it clicks in place. The monitor will then tilt upward 16 degrees.

- Tighten the lock screws on both sides of the monitor, to lock the tilt arm in place.

To retract the tilt arm, tilt the monitor upward and press the lock release button on both sides of the monitor.

The tilt arm will then retract.

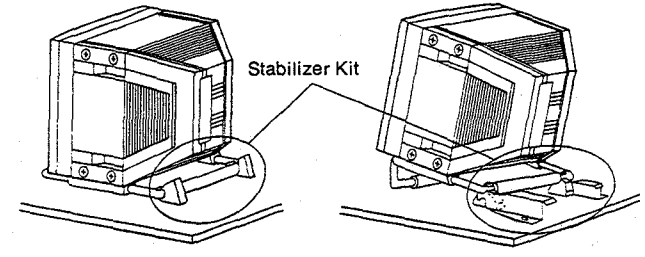
- If the lock screws had been tightened, loosen the screws by four turns. Then press the lock release buttons.
- Do not grasp the frame while tilting the monitor. Doing so may detach the frame accidentally.



Monitor Angle and Stabilizer Kit

A stabilizer kit (2 metal fittings, 2 moldings, 4 screws) is provided. Be sure to use the stabilizer kit to prevent the monitor from falling over due to earthquakes or accidental bumping.

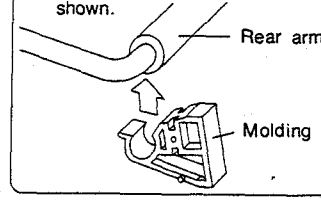
If the monitor is to be tilted 10 degrees upward, do not retract the tilt arm horizontally. Doing so will tilt the monitor downward.



The two metal fittings are not the same. Check the product number on the fitting and use the proper one for the left and right sides.

Tilting the Monitor 16 Degrees or Setting It Flat

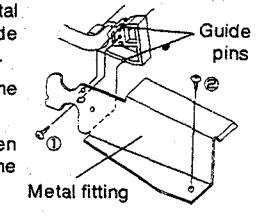
Attach the two moldings on both sides of the rear arm as shown.



① Align the holes of the metal fitting on the molding's guide pins and fasten with the screw.

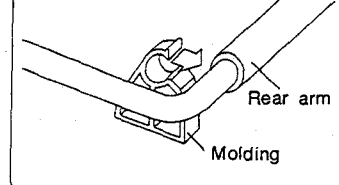
② Fasten the metal fitting to the stand with a screw.

The tilt arm can be moved even after the fittings are fastened to the stand.



Tilting the Monitor 10 Degrees

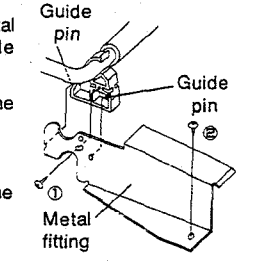
Attach the two moldings on both sides of the rear arm as shown. Then swing the front tilt arm.



① Align the holes of the metal fitting on the molding's guide pins and fasten with the screw.

② Fasten the metal fitting to the stand with a screw.

Do not move tilt arm after the fittings are fastened to the stand.



Disassembly Instructions

WARNING:

1. Before disassembly, remove the AC plug from the wall outlet.
2. When turning over a P.W. board to adjust it, be sure to lay on insulating material under it in order to prevent shorting.
3. P.W. board and wires should not be pulled forcibly, but be handled carefully.
4. When removing the rear cover take care not to damage the neck of the Picture Tube.
5. P.W. boards and connector should be handled with care-aviod handling them forcibly!
6. When handling the A-P.W. board with the power ON, there is a risk of an Electric shock if you use the COLD side heat sink while working on the HOT side of the chassis.

CIRCUIT BOARD LAYOUT

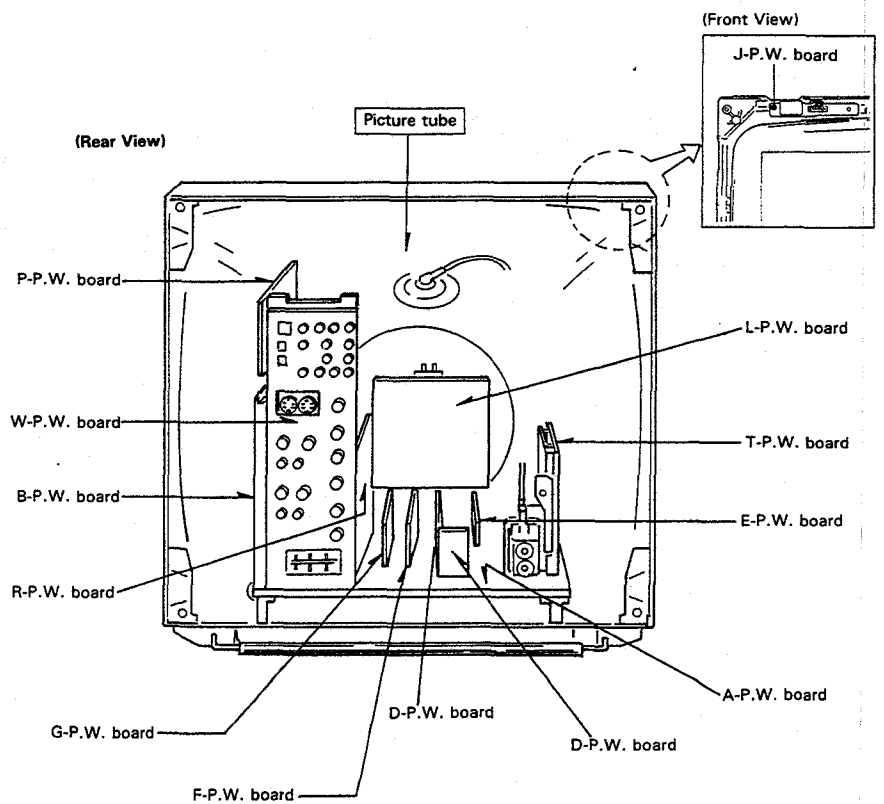


Fig. 1

CAUTION

It is easily possible to remove or install the front mask.
When servicing the unit, remove the mask.

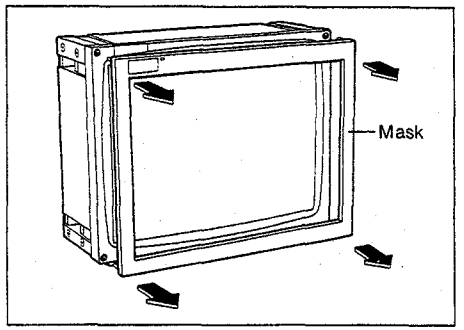


Fig. 2

Removal of rear cover

1. Remove 8 screws Ⓐ.

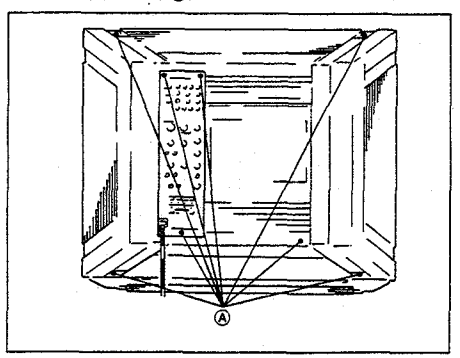


Fig. 3

Chassis frame sliding

1. Pull out the chassis frame as shown.

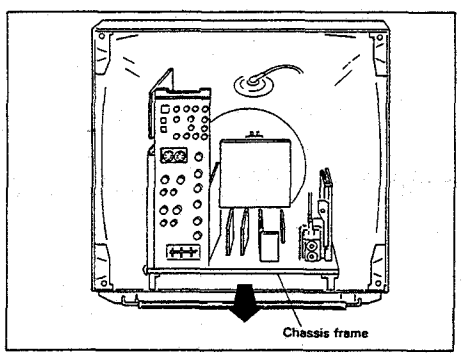


Fig. 4

Removal of W-P.W. board (WP-P.W. board)

1. Remove 3 screws Ⓑ.

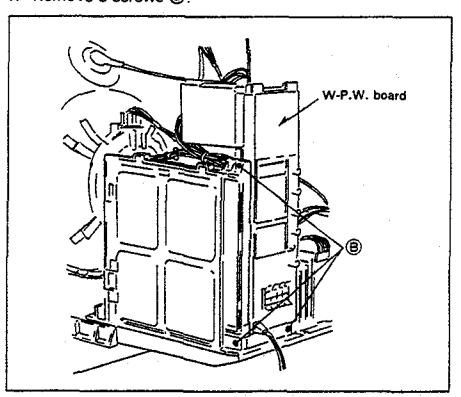


Fig. 5

2. Remove W-P.W. board while pulling out the connectors.

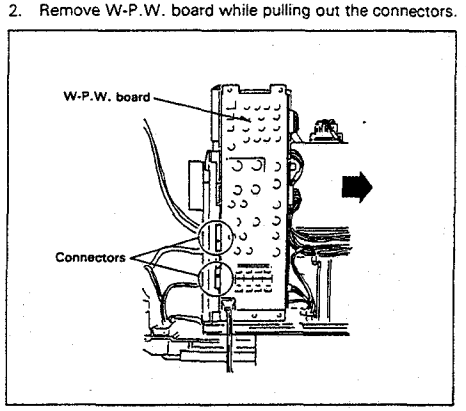


Fig. 6

Removal of B-P.W. board

1. Remove W-P.W. board.
2. Remove 2 screws Ⓒ.

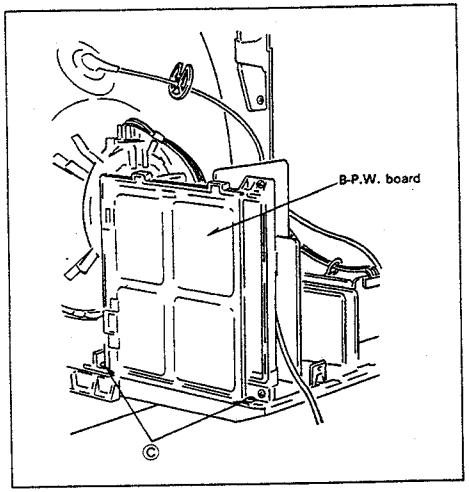


Fig. 7

3. Remove B-P.W. board while pulling out the connectors.

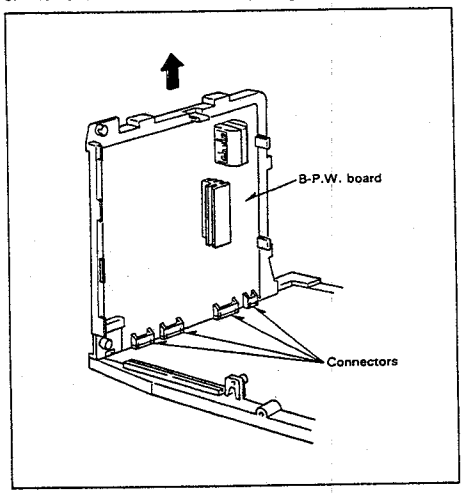


Fig. 8

Removal of R-P.W. board

1. Remove W-P.W. board.
2. Remove 2 hooks.

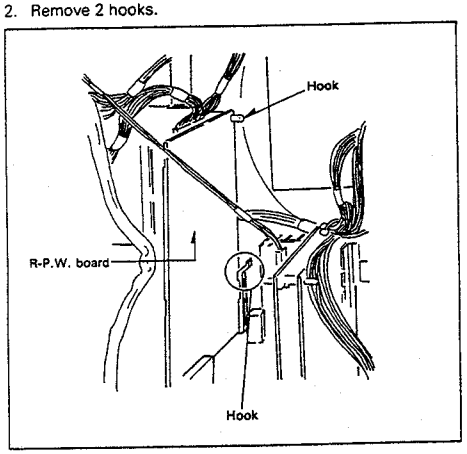


Fig. 9

3. Pull out the connectors A1, A12 and A13 on A-P.W. board. (See Fig. 12)
4. Then, remove R-P.W. board.

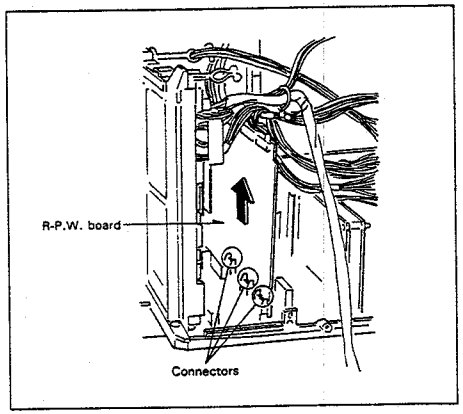


Fig. 10

Removal and check of D, E, F and G-P.W. boards

1. Pull out the connectors of the each P.W. board (A26, A27, A29, A33, A14, A15, A16, A23 and A24 on the A-P.W. board).

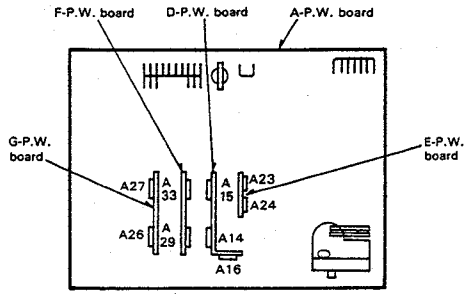


Fig. 11

* When each connector is removed, open the hook with a small flat screwdriver as shown below.

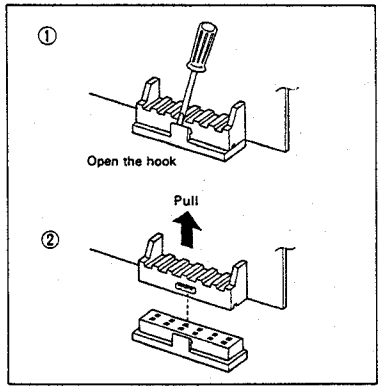


Fig. 12

2. Use **the extension cable** when each P.W. board is checked because there is insufficient space to troubleshoot the board.

Necessary extension cables are as following table. ***Order these extension cables to Japan.**

Ref. No.	Kind of extension cables	Part No.	Q'ty	
Ⓐ	4 Pin	TZS507027	1 pc.	Length is about 30cm.
Ⓑ	6 Pin	TZS507028	1pc.	
Ⓒ	9 Pin	TZS507029	2pcs.	
Ⓓ	10 Pin	TZS507030	4pcs.	

These extension cables are the same as one of BT-H1450Y/YG.

3. Connect each P.W. board by extension cables as shown.

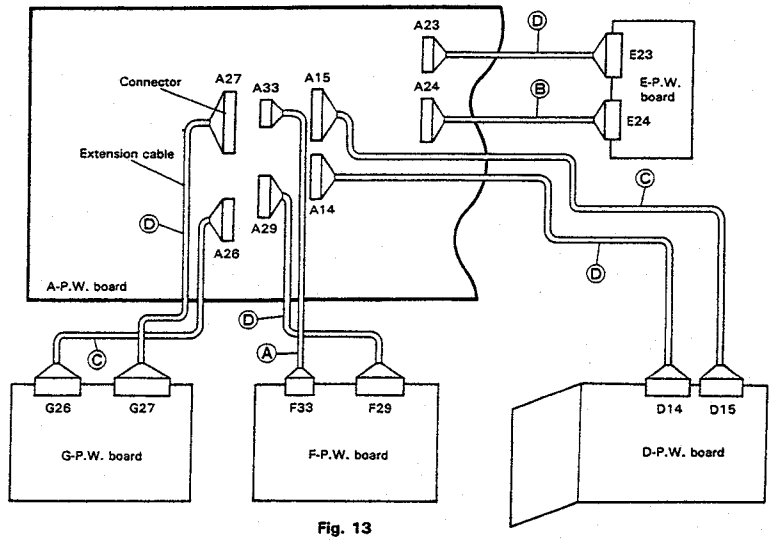


Fig. 13

Removal of T-P.W. board

1. Remove 4 hooks.

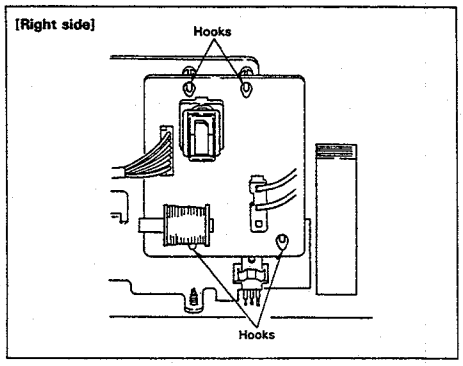


Fig. 14

Removal of J-P.W. board

1. Remove 4 screws Ⓓ.

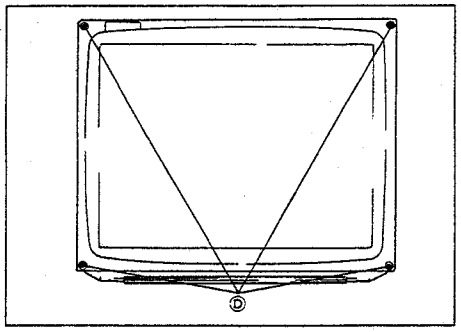


Fig. 15

2. Remove a screw Ⓔ.

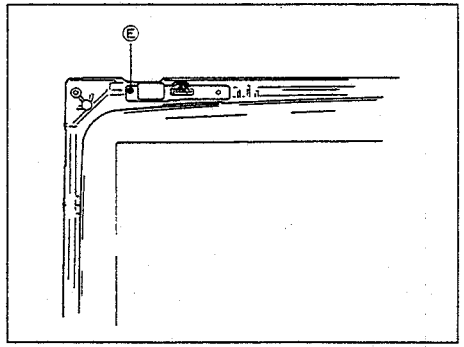


Fig. 16

Removal of Picture Tube

1. Pull out the chassis frame.
2. Remove L-P.W. board and deflection yoke.

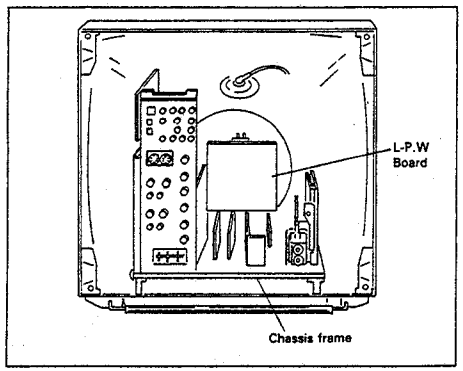


Fig. 17

3. Remove 4 screws Ⓕ, and remove the arm bracket.
4. Remove the holders, and remove the bracket (rail) for chassis frame.

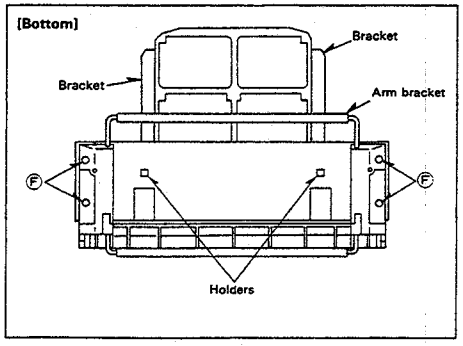


Fig. 18

5. Remove 4 screws Ⓖ.

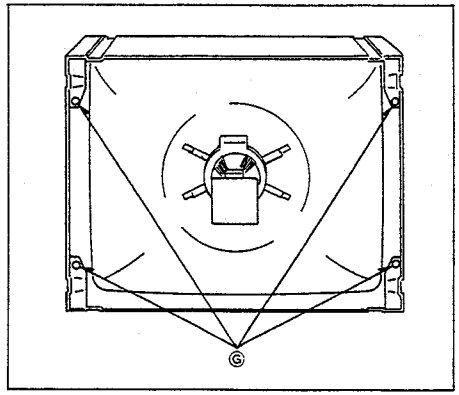


Fig. 19

6. Remove 8 screws Ⓗ, and pull out the handle bracket.

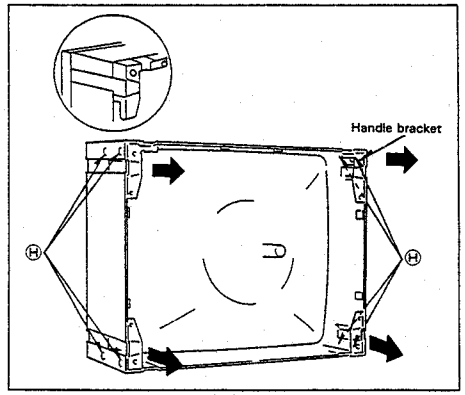


Fig. 20

7. Remove the degauss coil.

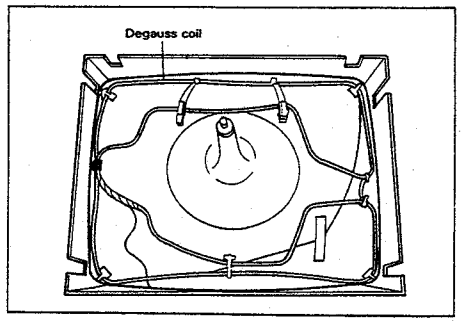


Fig. 21

8. Remove 4 screws Ⓘ.

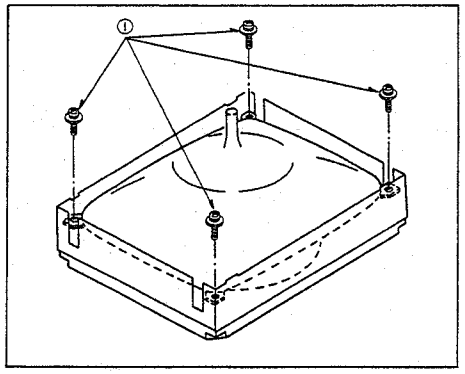


Fig. 22

Removal of Terminal Board Panel

1. Remove W-P.W. board block.
2. Remove 7 screws Ⓙ.

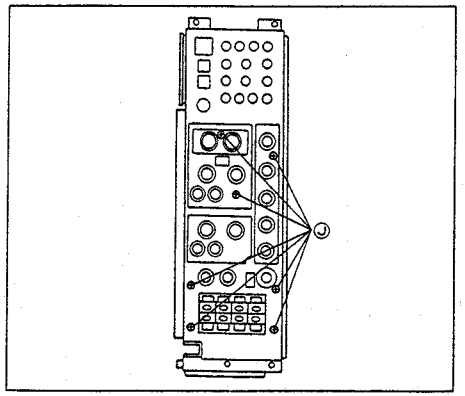


Fig. 23

3. Remove 6 screws Ⓚ.

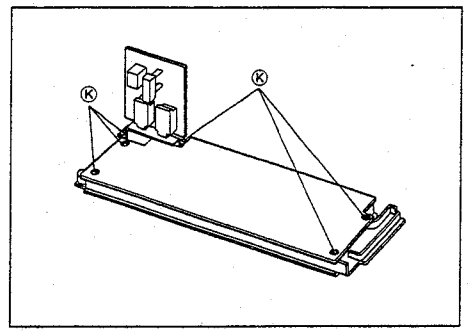


Fig. 24

Mounting of picture tube

1. Put a cushion under the CRT.

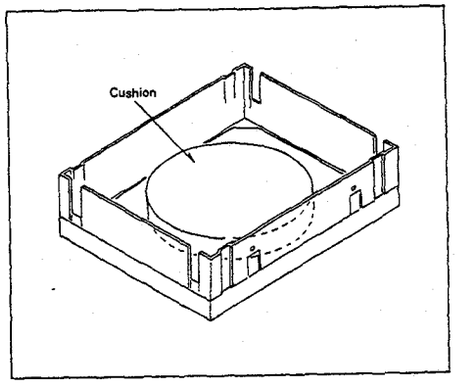


Fig. 25

2. Place the picture tube on the cushion.
3. Pick up the cabinet, and then tighten up 4 screws.

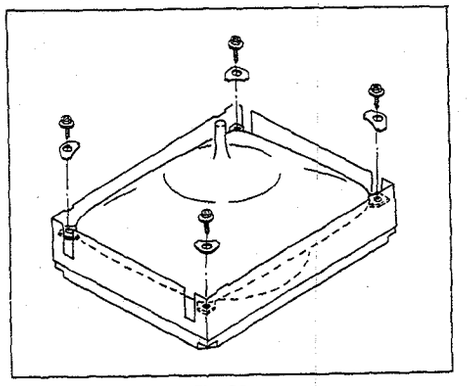


Fig. 26

4. Attach the degauss coil as shown in Fig. 21.
   Insert the handle bracket to the cabinet while putting the degauss coil clamper in it.

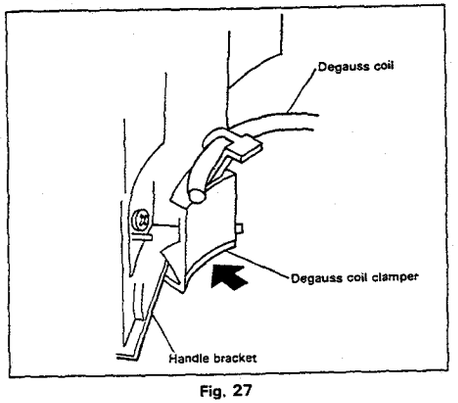


Fig. 27

Measurements and Adjustments

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PAL DELAY LINE ADJUSTMENT	30
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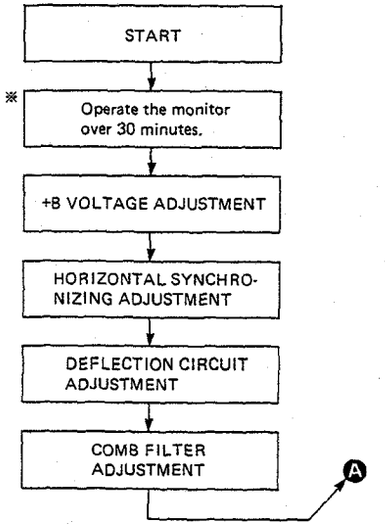
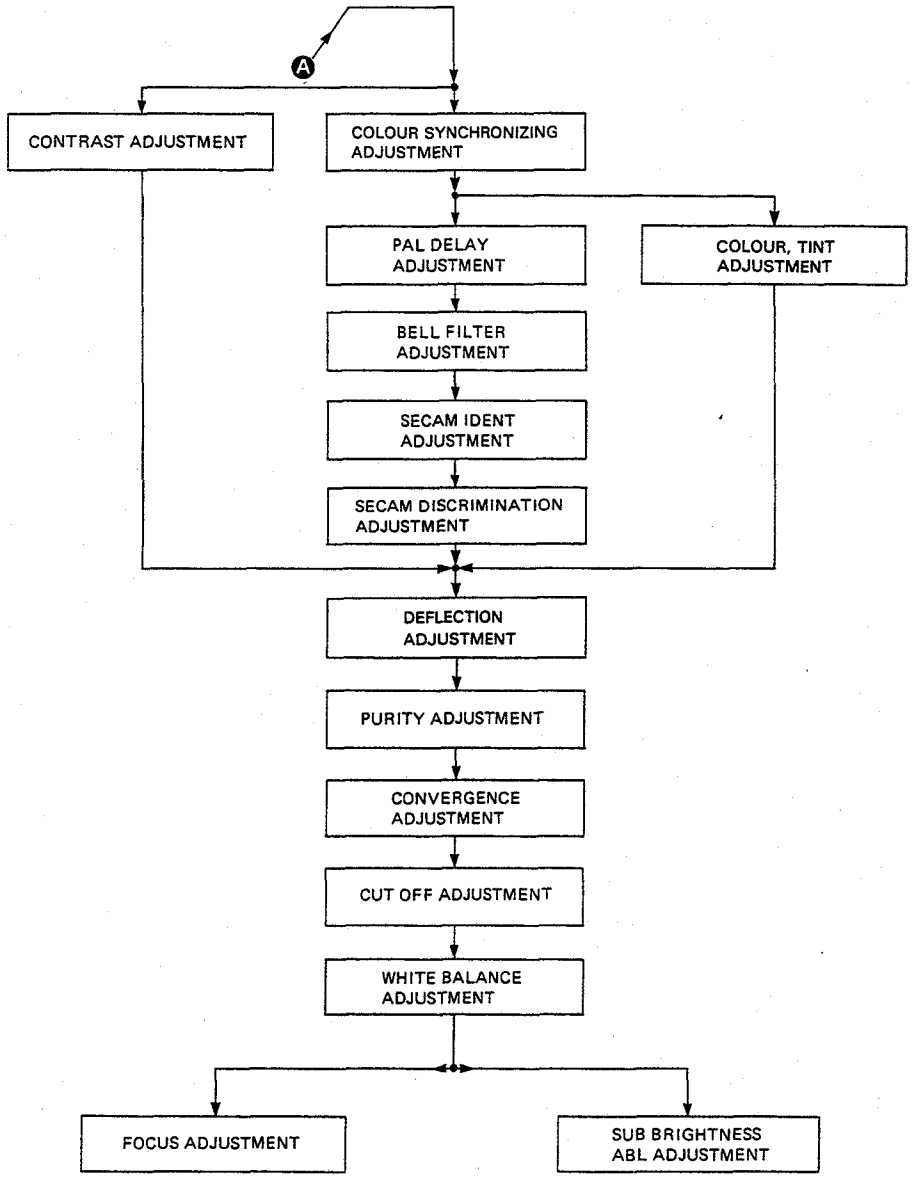
SUB BRIGHTNESS ABL ADJUSTMENT	36
FOCUS ADJUSTMENT	36

※ NOTE: Before measuring and adjusting, operate the monitor over 30 minutes.

ADJUSTMENT PROCEDURE FLOWCHART

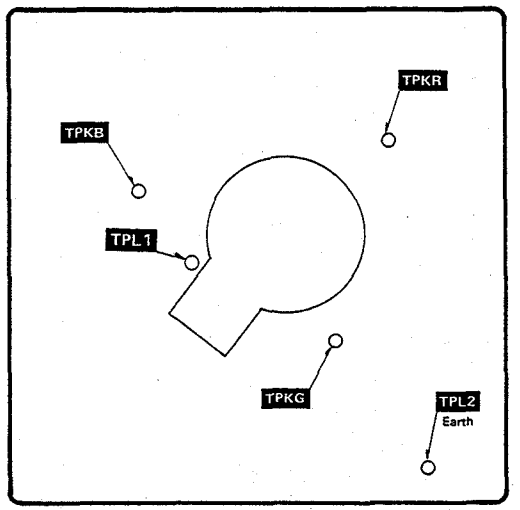




LOCATION OF TEST POINTS AND CONTROLS

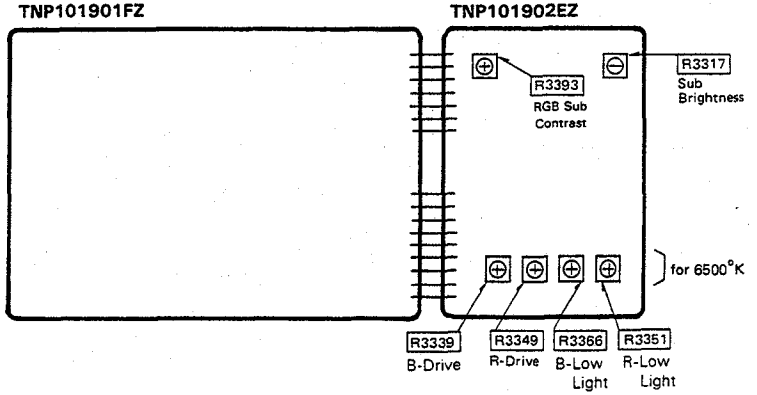
Note: When measuring and adjusting, it is convenient to use these pages.

L-P.W. board TNP101903CA

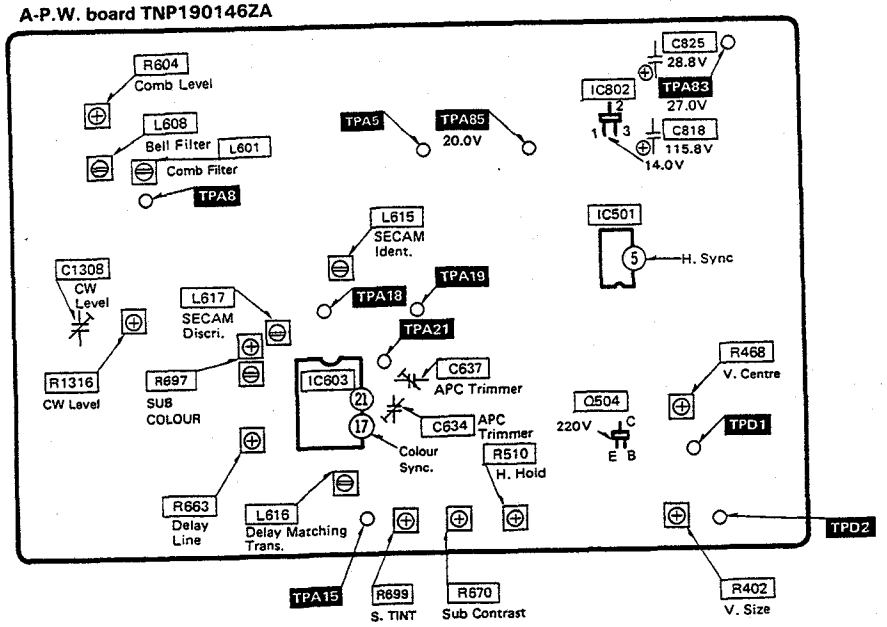


D-P.C. board
TNP101901FZ

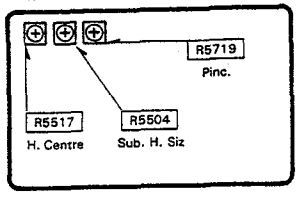
TNP101902EZ



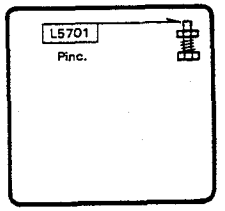
A-P.W. board TNP190146ZA



E-P.W. board TNP110141AZ



T-P.W. board TNP110196AZ



Caution for servicing

This model has the HOT and COLD section with the power supply section. Therefore following precautions are necessary.

1. Do not touch the HOT section and the COLD section at the same time. You may receive an electric shock.
2. Do not short the HOT section to the COLD section. This could blow the fuse or even damage parts.
3. Never measure the HOT section and the COLD section at the same time when using tools such as oscilloscopes or multimeters.
4. Always unplug the unit before beginning any operation such as removing the chassis.

Unless otherwise noted, a transformer core with has two tuning peak points should be adjusted at the lower position as shown in below Fig. 1.

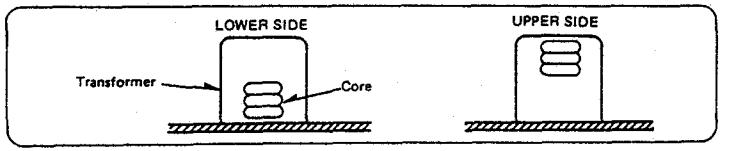


Fig. 1

For each adjustment, when a connector or a short jumper is connected or disconnected, first set the power switch to the OFF position.

+B Voltage adjustment (A-P.W. board)

1. Equipment to used

Digital Voltmeter
Tuner Unit.

2. Adjustment procedure

1. Input a Black Level pattern to VIDEO input terminal.
2. Set the Brightness and Contrast control to minimum, and delete the raster.
3. Connect a Digital Voltmeter between each +B points and the earth as follows.
4. Confirm the voltage at the following points as is indicated in the table below.

Measurement Point		Voltage
+B2 (C818 ⊕)	H. Sync. Plate (Earth)	115.8V±2.0V
+B1 (Q504 Ⓒ)		220V±20V
+B3 (C825 ⊕)		28.8V±2.0V
+B4 (TPA85)		20.0V±2.0V
+B5 (IC802 ①)		14.0V±1.0V
+B6 (IC802 ③)		12.0V±0.5V

Horizontal synchronizing adjustment (A-P.W. board)

1. Equipment to used

Short Jumper
Frequency Counter

2. Adjustment procedure

1. Input a Monoscope pattern to VIDEO input terminal.
2. Connect a short jumper between IC501 ⑤ and 12V line.
3. Connect a frequency centre to deflection yoke lead (Red).
4. Adjust R510 (H. Hold) so that the value of frequency counter is 15.625±0.2kHz.
5. Disconnect a short jumper, and confirm that the H-sync is locked and the picture is stable.

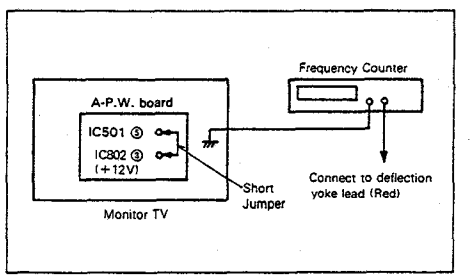


Fig. 2

Deflection circuit adjustment (A/L-P.W. board)

1. Equipment to used

High Voltmeter
DC Current Meter
AC-RMS voltmeter

2. Adjustment procedure

1. Input a Monoscope pattern to VIDEO input terminal.
2. Connect a ⊕ side of DC Current Meter to TPD1 and ⊖ side of DC Current Meter to TPD2.
3. Adjust R3317 (Sub Brightness) or R670 (Sub Contrast) so that the value of DC Current Meter is 1200μA.

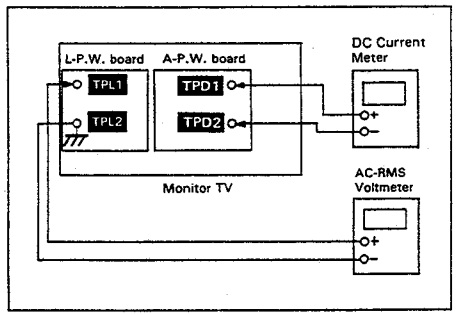


Fig. 3

4. Connect a ⊕ side of AC-RMS voltmeter to TPL1 and ⊖ side of AC-RMS voltmeter to TPL2.
5. Confirm that the value is 6.3±0.24Vrms.
6. Input a Black Level pattern to VIDEO input terminal.
7. Set the R3317 (Sub Brightness) and R670 (Sub Contrast) to minimum, and delete the raster.
8. Connect a High Voltmeter to anode of CRT.

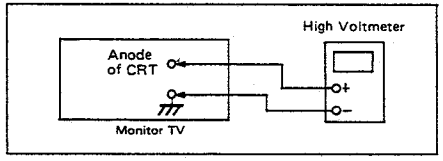


Fig. 4

9. Confirm that the value is 30.5±1.5kV.

Comb filter adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope
Video Generator

2. Initialize condition

Input Selector Switches ..... LINE A
TV System Selector Switch ..... NTSC 3.58
Filter Selector Switch ..... OFF

3. Adjustment procedure

1. Input a Colour Bar signal to VIDEO input terminal.
2. Connect an Oscilloscope to TPA8.

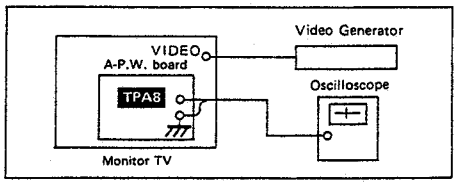


Fig. 5

3. Adjust R604 (Comb Level) and L601 to set 3.58MHz sub carrier at the minimum amplitude.
4. Confirm that 3.58 MHz sub carrier portion of the magenta is less than 50mVp-p as shown in Fig. 6.

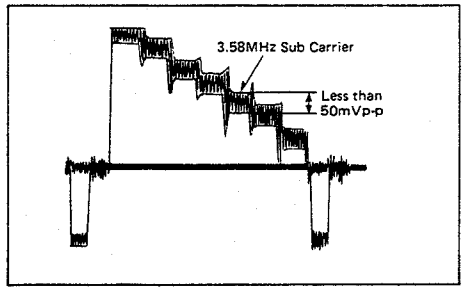


Fig. 6

5. If the amplitude is more than 50mVp-p repeat the adjustments described in step 3 through 4.

6. Disconnect the oscilloscope probe from TPA8 and connect the probe to TPA5.

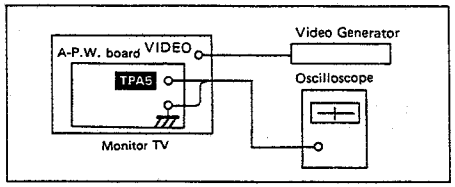


Fig. 7

7. Adjust R1316 (CW Level) and C1308 to set 3.58 MHz sub carrier at the minimum amplitude.
8. Confirm that 3.58 MHz sub carrier portion of the magenta is less than 100mVp-p as shown in Fig. 8.

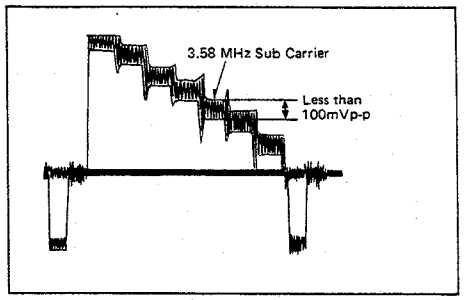


Fig. 8

9. If the amplitude is more than 100mVp-p repeat the adjustments described in step 7 through 8.

Contrast adjustment (A/L-P.W. board)

1. Equipment to used

Oscilloscope
Video Generator
RGB Signal Generator

2. Initialize condition

	On screen indicator
Contrast Control	Step 50
RGB Contrast Control	Step 50
Brightness Control	Step 32

3. Adjustment procedure

1. Set the Input Selector Switches to LINE A.
2. Input a Cross Hatch pattern signal to VIDEO input terminal.
3. Connect an Oscilloscope to TPA5.

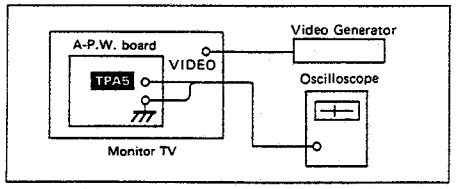


Fig. 9

4. Confirm that the A is 0V at TPA5.

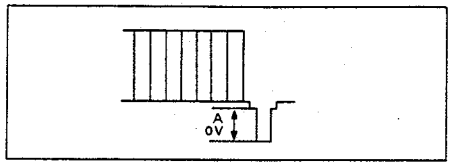


Fig. 10

5. Disconnect an Oscilloscope from TPA5 and connect an Oscilloscope to TPKG and TPL2. (ground).

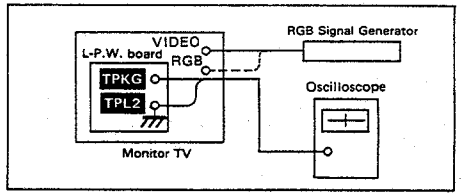


Fig. 11

6. Adjust R670 (Sub Contrast) so that the C is 100Vp-p at TPKG as shown in Fig. 12.

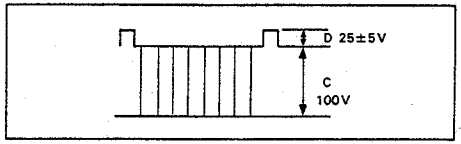


Fig. 12

7. Set the Input Selector switches to RGB.
8. Input a Cross Hatch pattern signal (fH = 15.75 kHz) to RGB inputs terminal.
9. Be sure that D is 25±5Vp-p.
   If the D is not 25±5Vp-p, adjust R3317 (Sub Brightness).
10. Adjust R3393 (RGB Sub Contrast) so that the C is 100Vp-p at TPKG as shown in Fig. 12.
11. Set the picture to first lightup colour (glimmer!) by R3317 (Sub Brightness).

Colour synchronizing adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope　　Short Jumper
Video Generator

2. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Input a PAL Colour Bar pattern signal to LINE A VIDEO input terminal.
3. Set the TV System Selector switch to PAL.
4. Connect a short jumper between IC603 ⑰ and earth.
5. Connect an Oscilloscope to TPA19.
6. Adjust C637 (APC Trimmer) so that the waveform is stabilized, or in a slowly moving state.
7. Disconnect a short jumper, and confirm that the waveform is stable.
8. Input a NTSC Colour Bar pattern signal to LINE A VIDEO input terminal.
9. Set the TV System Selector switch to NTSC 3.58.
10. Connect a short jumper between IC603 ⑰ and earth.
11. Adjust C634 (APC Trimmer) so that the waveform is stabilized, or in a slowly moving state.
12. Disconnect the short jumper, and confirm that the waveform is stable.
13. Set the TV System Selector switch to AUTO.
14. Input a PAL colour Bar pattern signal to LINE A and NTSC Colour Bar pattern signal to LINE B terminal.
15. Confirm that the colour is put on without delay when the sitnal is switched over from LINE A to LINE B.

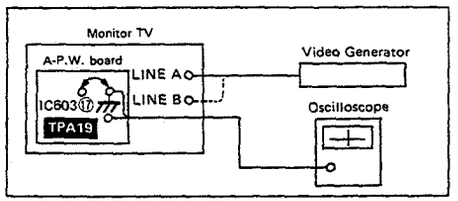


Fig. 13

PAL delay line adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope
Video Generator

2. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Input a PAL Colour Bar pattern signal to VIDEO input terminal.
3. Set the TV System Selector switch to PAL.
4. Connect an Oscilloscope to TPA19.
5. Adjust L616 (Delay Matching Trans.) and R663 (Delay Line Adj.) to achieve waveform shown in Fig. 15.

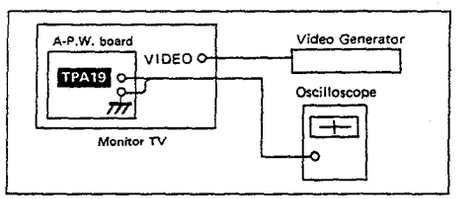


Fig. 14

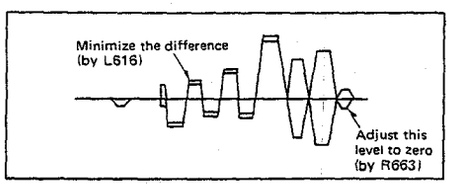


Fig. 15

Bell filter adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope
10kΩ Resistor
Video Generator

2. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Set the TV System Selector switch to SECAM.
3. Input a SECAM Colour Bar pattern signal to VIDEO input terminal.
4. Connect an Oscilloscope to TPA15 via 10kΩ resistor.
5. Make even the amplitude of B and R of chrominance of colour bar by L608 (Bell Filter) as shown in Fig. 17.

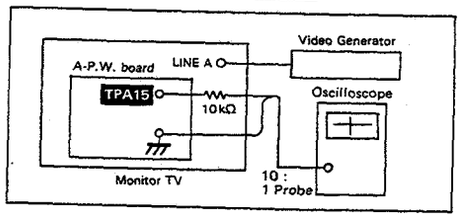


Fig. 16

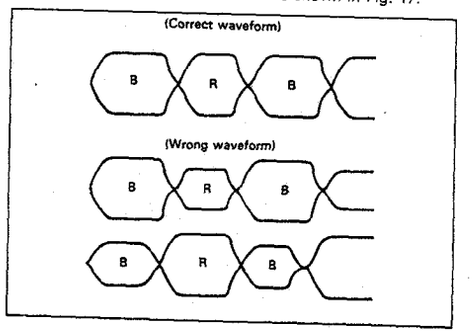


Fig. 17

SECAM ident adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope
Video Generator
10kΩ Resistor

2. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Input a SECAM Colour Bar pattern signal to VIDEO input terminal.
3. Set the TV System Selector switch to SECAM.
4. Connect an Oscilloscope TPA21 (IC603 ㉑) via 10kΩ resistor.
5. Adjust L615 (SECAM Ident) so that the voltage is maximum.

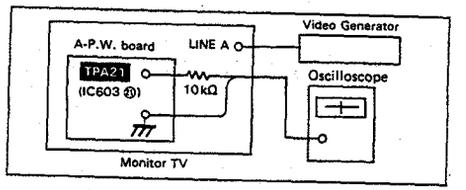


Fig. 18

SECAM discrimination adjustment (A-P.W. board)

1. Equipment to used

Oscilloscope.
Video Generator

2. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Set the TV System Selector switch to SECAM.
3. Input a SECAM Colour Bar pattern signal to VIDEO input terminal.
4. Connect an Oscilloscope to TPA19.
5. Adjust L617 (SECAM Discrimination) so that the levels A, B and C are same level as shown in Fig. 20.

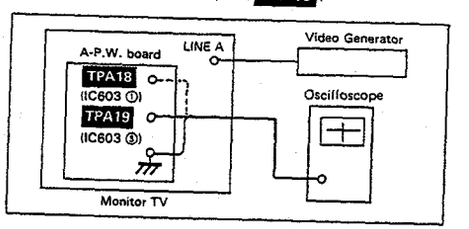


Fig. 19

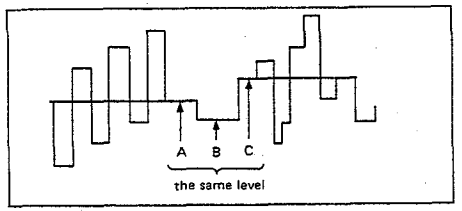


Fig. 20

6. Disconnect an Oscilloscope from TPA19 and connect an Oscilloscope to TPA18.
7. Adjust L618 so that the levels D, E and F are same level as shown in Fig. 21.

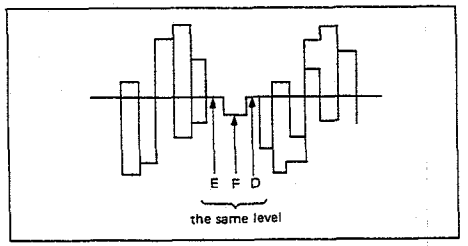


Fig. 21

8. Disconnect an Oscilloscope from TPA18 and connect an Oscilloscope to TPA19.
9. Confirm that the levels A and C are same level as shown in Fig. 20.

Colour, tint adjustment (L-P.W. board)

1. Equipment to used

Video Generator
Oscilloscope

2. Initialize condition

	On screen indicator
Contrast Control	Step 50
RGB Contrast Control	Step 50
Brightness Control	Step 32
Colour Control	Step 32
Tint Control	Step 32
Blue Only Switch	ON
TV System Selector Switch	NTSC 3.58

3. Adjustment procedure

1. Set the Input Selector switches to LINE A.
2. Input a Full Field Colour Bar signal to VIDEO input terminal.
3. Connect an oscilloscope to TPKG and TPL2.

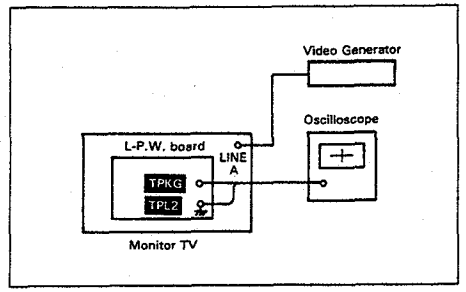


Fig. 22

4. Adjust R697 (Sub Colour) so that the waveform at TPKG becomes as shown in Fig. 23.

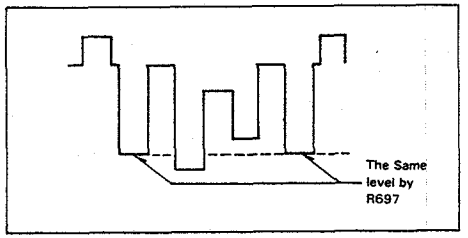


Fig. 23

5. Adjust R699 (Sub Tint) so that the waveform at TPKG becomes as shown in Fig. 24.

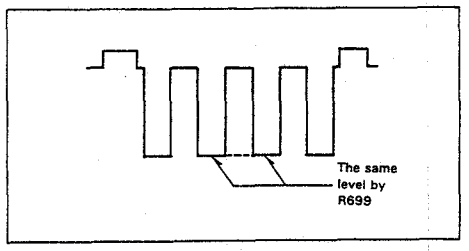


Fig. 24

Deflection adjustment (AE-P.W. board)

1. Equipment to used

High Voltmeter

2. Initialize condition

Preset the following controls so that the chassis width is position indicated.

	On screen indicator
R5517 (H. Centre)	Step 32
R5504 (Sub. H. Size)	Step 40
R402 (Sub. V. Size)	Step 40

3. Adjustment procedure

1. Set the Input Selector Switches to LINE A.
2. Set the TV System Selector switch to NTSC.
3. Input a NTSC Cross Hatch pattern signal to VIDEO input terminal.
4. Adjust L5701 (PINC.) so that the horizontal line is straight.
5. Adjust R5719 (PINC.) so that the vertical line is straight.
6. Set the Input Selector switches to LINE B.
7. Set the TV System Selector switch to PAL.
8. Input a PAL Cross Hatch pattern signal to VIDEO input terminal.
9. Confirm that the horizontal line and vertical line is straight. If it is not, some repairs may be necessary.
10. Set the Input Selector switches to LINE A.
11. Set the TV System Selector switch to NTSC.
12. Input a NTSC Monoscope pattern signal to VIDEO input terminal.
13. Adjust R468 (V. Centre) so that the vertical picture position is centre.
14. Adjust vertical height by R402 (Sub V. Size) so that the A=B=2.0±0.5 as shown in Fig. 25.

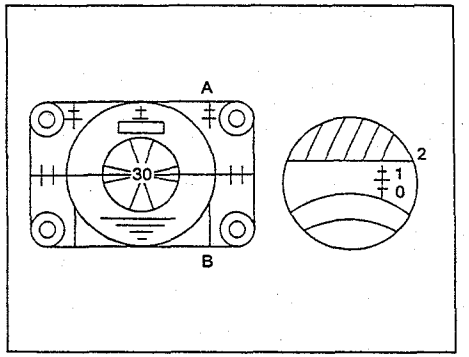


Fig. 25

15. Adjust R5517 (H. Centre) so that the horizontal picture position is centre.
16. Adjust horizontal width by R5504 (Sub. H. Size) so that the C=D=2.5±0.3 as shown in Fig. 26.

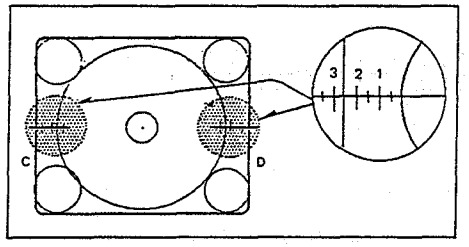


Fig. 26

17. Input a Black Level pattern signal to VIDEO input terminal.
18. Set the Brightness control and Contrast control to minimum by remote controller.
19. Connect a High Voltmeter to anode of CRT.

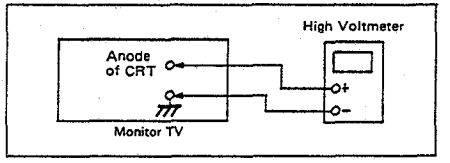


Fig. 27

20. Confirm that the value is 30.5±1.5kV. (Be sure to delete the onscreen indication on picture.)

Purity adjustment

1. Equipment to used

Video Generator
External Degaussing Coil

2. Adjustment procedure

1. Operate the monitor over 30 minutes.
2. Fully degauss the picture tube by using an external degaussing Coil.
3. Set the Input Selector Switches to LINE A.
4. Input a video signal to VIDEO input terminal.
5. Roughly adjust the convergence by using the static and convergence magnets and deflection yoke.
6. Input a black and white signal to VIDEO input terminal.
7. Loosen clamp screw of the deflection yoke.
8. Slide the deflection yoke toward the L-P.W. board.
9. Adjust the purity magnets so that red bar is obtained at the centre of the picture.

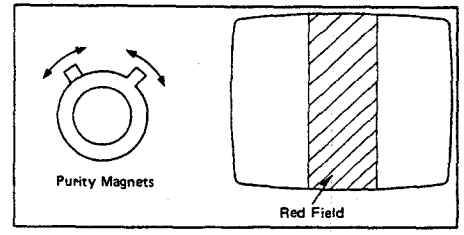


Fig. 28

10. Slide the deflection yoke toward the picture tube so that good purity is obtained.
11. Confirm the purity with a green and a blue screen.
12. Emit the Red, Green and Blue at the same time.
13. Confirm the white quality.
14. Tighten clamp screw when complete.

Convergence adjustment

1. Equipment to used

Video Generator. deo Generator.

2. Adjustment procedure

1. Operate the monitor 30 minutes.
2. Set the Input Selector Switches to LINE.
3. Input a Cross Hatch pattern signal to VIDEO input terminal.
4. Match the R and B at picture center with four pole magnet.
   (Rotate the two ring magnets to move the red and blue dots circularly in the opposite direction).
5. At the picture centre, match R and B to G with the six-pole magnet.
6. Fine tune the deflection yoke location to get good convergence on the whole picture.

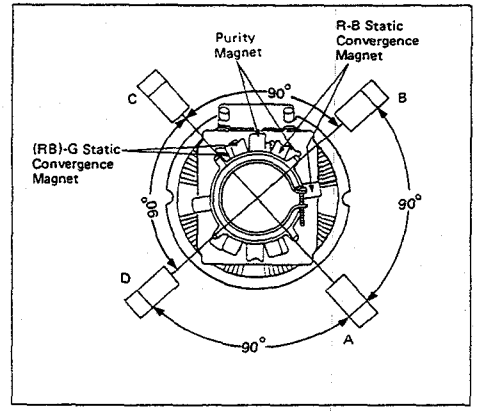


Fig. 30

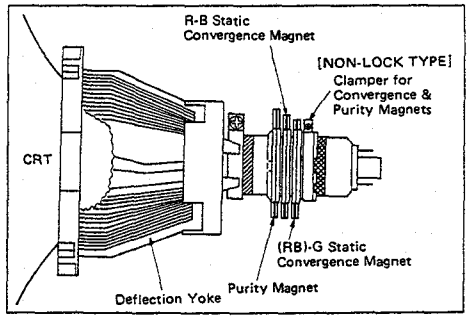


Fig. 29

Notes:

1. After inserting wedge A, insert wedges B, C and D. The wedge should be set 90° apart from each other.
2. Be certain that the four wedges are firmly fixed and the Deflection Yoke is tightly clamped in place. Otherwise the Deflection Yoke may shift it position and cause a loss of convergence and purity.

Cut off adjustment (L-P.W. board)

1. Equipment to used

Oscilloscope
Video Generator

2. Initialize condition (D-P.W. board)

R3349 (R Drive) ..... Centre
R3351 (R Low light) ..... Centre
R3339 (B Drive) ..... Centre
R3366 (B Low light) ..... Centre

3. Adjustment procedure

1. Set the input selector switches to LINE A.
2. Set the TV System selector switch to NTSC 3.58.
3. Input a Cross Hatch pattern signal to VIDEO input terminal.
4. Connect an Oscilloscope to TPKG, TPKB or TPKR, and earth.

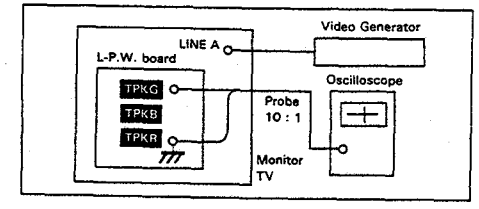


Fig. 31

5. Measure the black standard signal voltage (as shown in Fig. 32) at each of the three cathodes (TPKG, TPKR, and TPKB).
6. Connect an oscilloscope probe to the cathode which had the highest black standard signal voltage.
7. Adjust the screen control on the FBT to set the highest black signal to 180V±5V.

Note: Black standard signal is output from the IC for auto white balance and appears after the vertical blanking pulse. Do not adjust at black level in video signal.

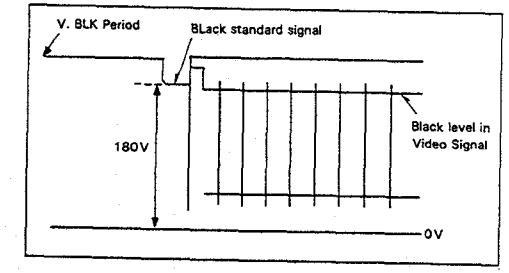


Fig. 32

White balance adjustment (D-P.W. board)

1. Equipment to used

Video Generator
TV-Colour Analyzer

2. Initialize condition

	On screen indicator
Colour Control	Centre (Step 32)
Tint Control	Centre (Step 32)
Contrast Control	Step 50
Sharpness Control	Centre (Step 32)
H. Cent. Control	Centre (Step 32)
Brightness Control	Centre (Step 32)
R3317 (Sub. Brightness)	Centre
R3349 (R. Drive)	
R3339 (B. Drive)	
R3351 (R. Low light)	
R3366 (B. Low light)	

3. Adjustment procedure

1. Operate the monitor over 30 minutes.
2. Apply a white pattern signal.
3. Adjust the brightness control so that the picture tube becomes faint light.
4. Adjust R3351 (R. Low light) and R3366 (B. Low light) so that the screen becomes uniform white.
5. Turn the brightness control fully clockwise.
6. Adjust R3349 (R. Drive) and R3339 (B. Drive) so that the screen becomes uniform white.
7. Since the adjustment of steps 3 through 6 have mutual influence, be sure to repeat the followup adjustment.

Sub brightness ABL adjustment (AD-P.W. board)

1. **Equipment to used**
   Video Generator
2. **Initialize condition**
   Contrast Control . . . . . Max.
   RGB Contrast Control . . . . . Max.
   Brightness Control . . . . . Centre
3. **Adjustment procedure**
   1. Operate the monitor over 30 minutes.
   2. Set the Input Selector Switches to LINE A.
   3. Input SMPTE or cross hatch pattern signal to VIDEO input terminal.
   4. Adjust the sub-brightness control (R3317) until a first colour is dimly visible.

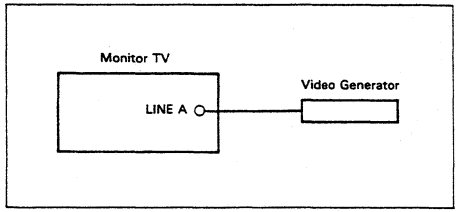


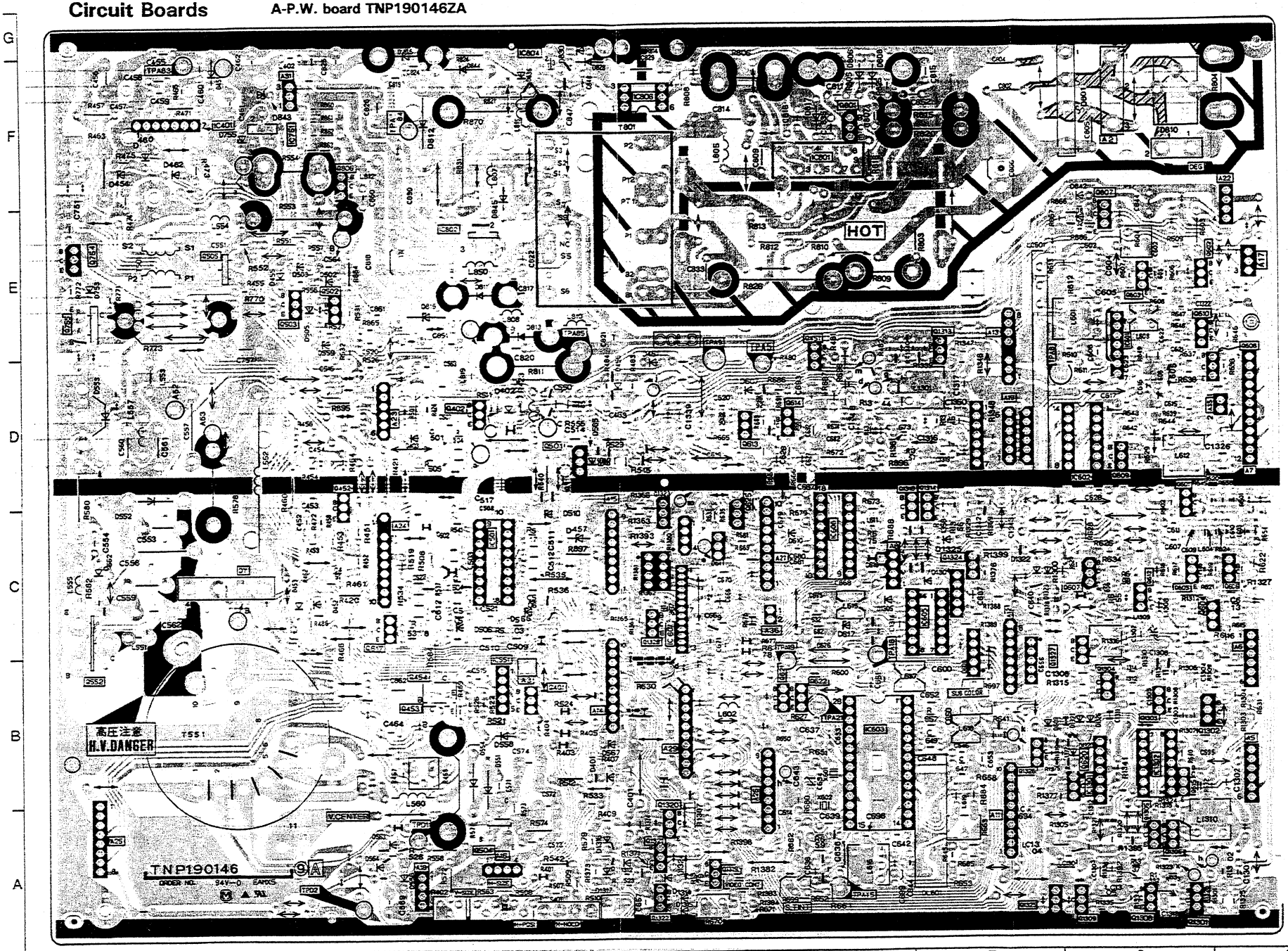
Fig. 34

Focus adjustment

Adjust the focus control (on the FBT) to obtain the sharpest and clearest picture.

Circuit Boards

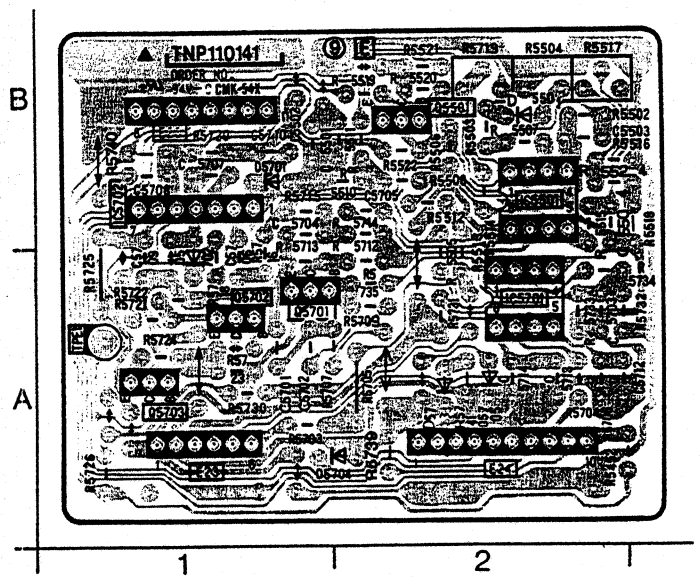
A-P.W. board TNP190146ZA



E-P.W. board TNP110141AZ

A-P.W. Board	
TRANSISTOR	
Q401	B-4
Q402	D-3
Q451	E-6
Q452	D-4
Q453	B-3
Q454	B-3
Q501	D-4
Q502	E-3
Q503	E-2
Q504	A-4
Q505	E-2
Q552	B-1
Q601	D-8
Q602	E-8
Q603	E-8
Q604	C-8
Q605	C-8
Q606	C-9
Q607	C-8
Q608	E-9
Q609	D-8
Q610	E-8
Q612	C-8
Q613	D-5
Q614	D-6
Q615	B-8
Q617	C-3
Q620	B-8
Q621	B-6
Q622	B-6
Q625	C-5
Q754	E-1
Q755	E-1
Q801	F-6
Q804	F-6
Q806	F-3
Q807	E-8
Q1301	B-8
Q1302	B-8
Q1303	B-8
Q1304	B-8
Q1305	A-8
Q1306	A-8
Q1308	A-8
Q1309	A-8
Q1313	E-7
Q1314	D-7
Q1318	D-6
Q1319	A-5
Q1320	A-5
Q1321	A-5
Q1322	A-5
Q1323	C-5
Q1324	C-7
Q1325	A-7
Q1326	B-7
Q1327	B-7
Q1328	C-5
IC	
IC401	F-2
IC501	
IC551	B-4
IC601	E-8
IC602	D-8
IC603	B-6
IC605	C-7
IC606	C-6
IC607	C-5
IC751	F-2
IC801	E-6
IC802	E-3
IC804	F-4
IC806	F-5
IC1301	B-8
IC1302	B-8
VR	
R402	A-3
R468	B-3
R508	A-4
R510	A-4
R563	A-4
R604	E-8
R663	A-7
R670	A-5
R697	B-7
R699	A-6
R804	F-8
R1316	C-8
TP	
TPA5	E-5
TPA8	D-7
TPA9	E-5
TPA15	A-6
TPA18	C-6
TPA19	C-6
TPA21	B-6
TPA83	F-2
TPA84	F-3
TPA85	E-4
TPD1	A-3
TPD2	A-2

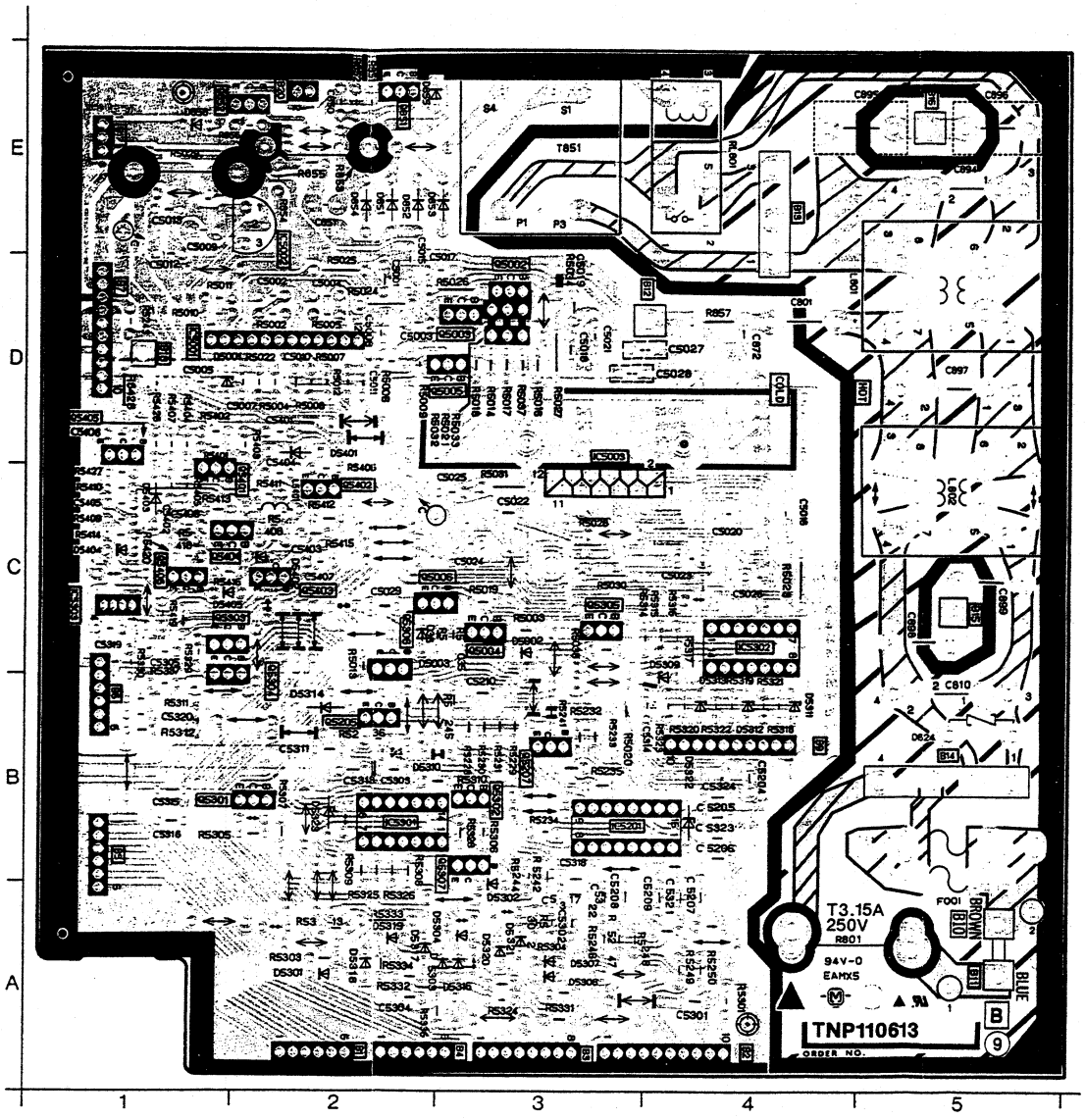
ADDRESS INFORMATION



E-P.W. Board	
TRANSISTOR	
Q5501	B-2
Q5701	A-1
Q5702	A-1
Q5703	A-1
IC	
IC5501	B-2
IC5701	A-2
IC5702	B-1
VR	
R5504	B-2
R5517	B-2
R5719	B-2
TP	
TPE1	A-1

ADDRESS INFORMATION

B-P.W. board TNP110613

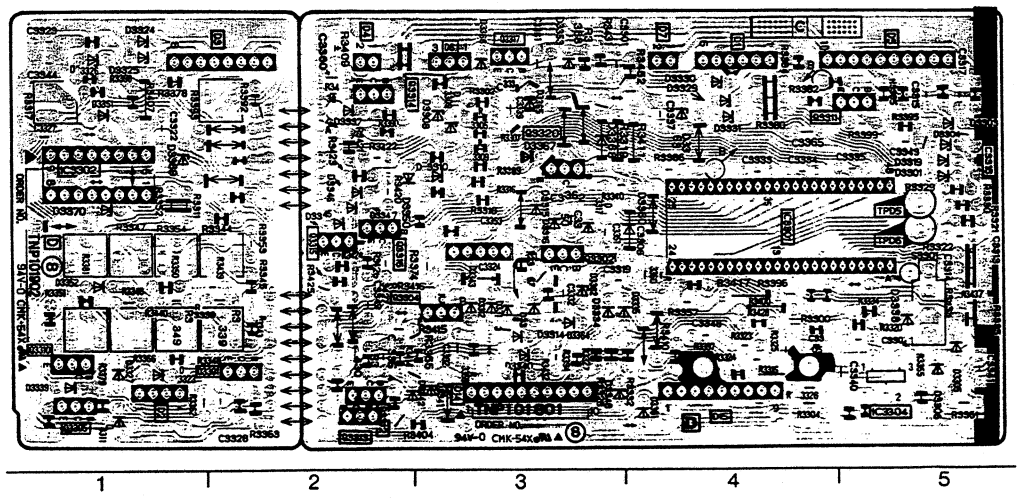


B-P.W. Board	
TRANSISTOR	
Q851	E-2
Q852	E-1
Q5002	D-3
Q5003	D-3
Q5004	C-3
Q5005	D-3
Q5006	C-2
Q5205	C-2
Q5207	B-2
Q5301	B-1
Q5302	B-3
Q5303	C-1
Q5304	B-2
Q5305	C-3
Q5306	C-2
Q5307	B-3
Q5401	C-2
Q5402	C-2
Q5403	B-1
Q5404	C-1
Q5405	D-1
Q5406	C-1
IC	
IC5001	D-1
IC5002	E-2
IC5003	D-3
IC5201	B-3
IC5301	B-2
IC5302	C-4
IC5303	C-1

ADDRESS INFORMATION

D2-P.W. board
TNP101902EZ

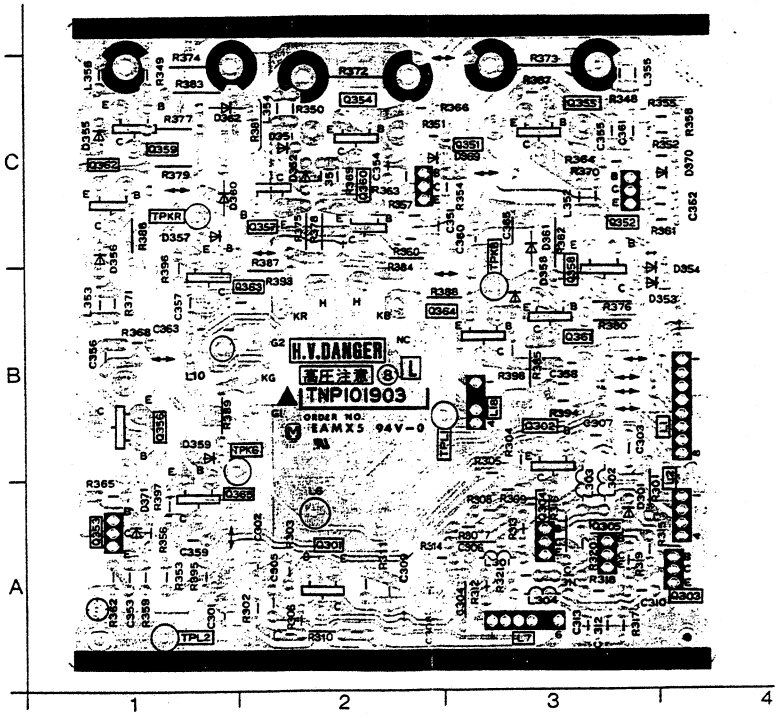
D1-P.W. board
TNP101901FZ



D-P.W. Board	
TRANSISTOR	
Q3301	A-2
Q3302	A-3
Q3304	A-2
Q3305	A-1
Q3310	A-1
Q3311	B-5
Q3312	A-2
Q3313	A-2
Q3314	B-2
Q3315	B-2
Q3316	B-2
Q3317	B-3
Q3320	B-3
IC	
IC3301	B-4
IC3302	B-1
IC3304	A-5
VR	
R3317	A-1
R3339	A-2
R3344	B-2
R3347	B-1
R3349	A-1
R3351	A-1
R3354	B-1
R3366	A-1
R3381	A-1
R3393	B-1
TP	
TPD5	B-5
TPD6	B-5

ADDRESS INFORMATION

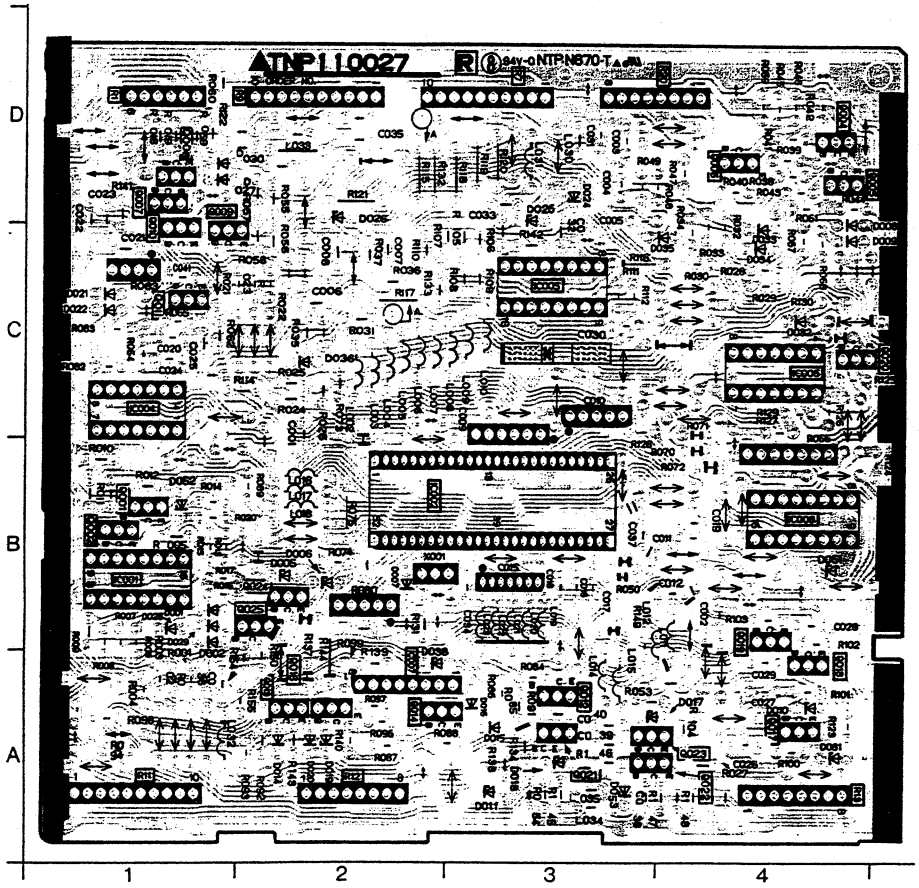
L-P.W. board TNP101903CA



L-P.W. Board	
TRANSISTOR	
Q301	A-2
Q302	B-3
Q303	A-4
Q304	A-3
Q305	A-3
Q351	C-3
Q352	C-3
Q353	A-1
Q354	C-2
Q355	C-3
Q356	B-1
Q357	C-2
Q358	C-3
Q359	C-1
Q360	C-2
Q361	B-3
Q362	C-1
Q363	B-1
Q364	B-2
Q365	A-1
TP	
TPKB	C-3
TPKG	B-1
TPKR	C-1
TPL1	B-3
TPL2	A-1

ADDRESS INFORMATION

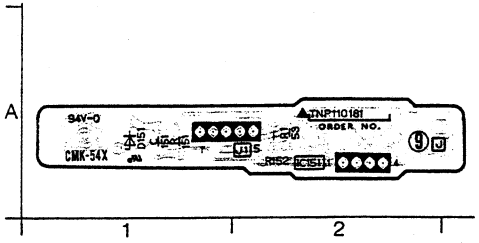
R-P.W. board TNP110027BZ



R-P.W. Board	
TRANSISTOR	
Q001	B-1
Q002	B-1
Q004	D-4
Q005	D-4
Q006	D-4
Q007	D-1
Q008	D-1
Q009	D-1
Q010	C-1
Q011	C-1
Q012	A-3
Q013	A-2
Q014	A-2
Q015	A-4
Q017	A-4
Q018	A-4
Q019	B-4
Q020	C-4
Q021	A-3
Q022	A-4
Q023	A-4
Q024	B-2
Q025	B-2
IC	
IC001	B-1
IC002	B-2
IC003	B-4
IC004	C-1
IC005	C-3
IC006	C-4
IC007	A-2

ADDRESS INFORMATION

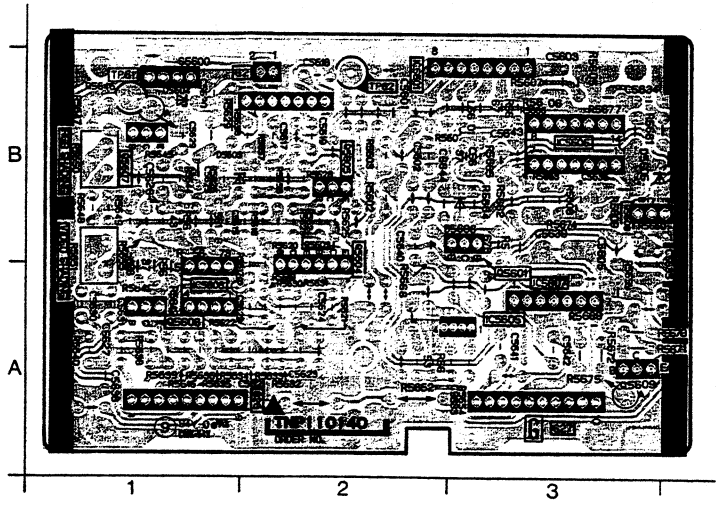
J-P.W. board TNP110181AZ



J-P.W. Board	
IC	
IC151	A-2

ADDRESS INFORMATION

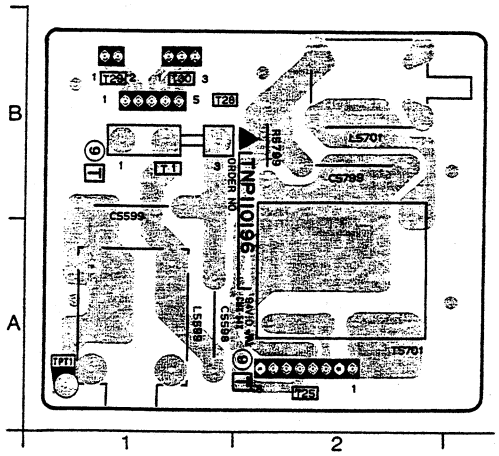
G-P.W. board TNP110140AZ



G-P.W. Board	
TRANSISTOR	
Q5601	A-3
Q5604	A-2
Q5605	B-2
Q5606	A-1
Q5607	B-1
Q5608	B-3
Q5609	A-3
IC	
IC5601	B-2
IC5603	A-1
IC5605	A-3
IC5606	B-3
IC5607	A-3
VR	
R5650	B-1
R5651	A-1
TP	
TPG1	B-1
TPG2	B-2

ADDRESS INFORMATION

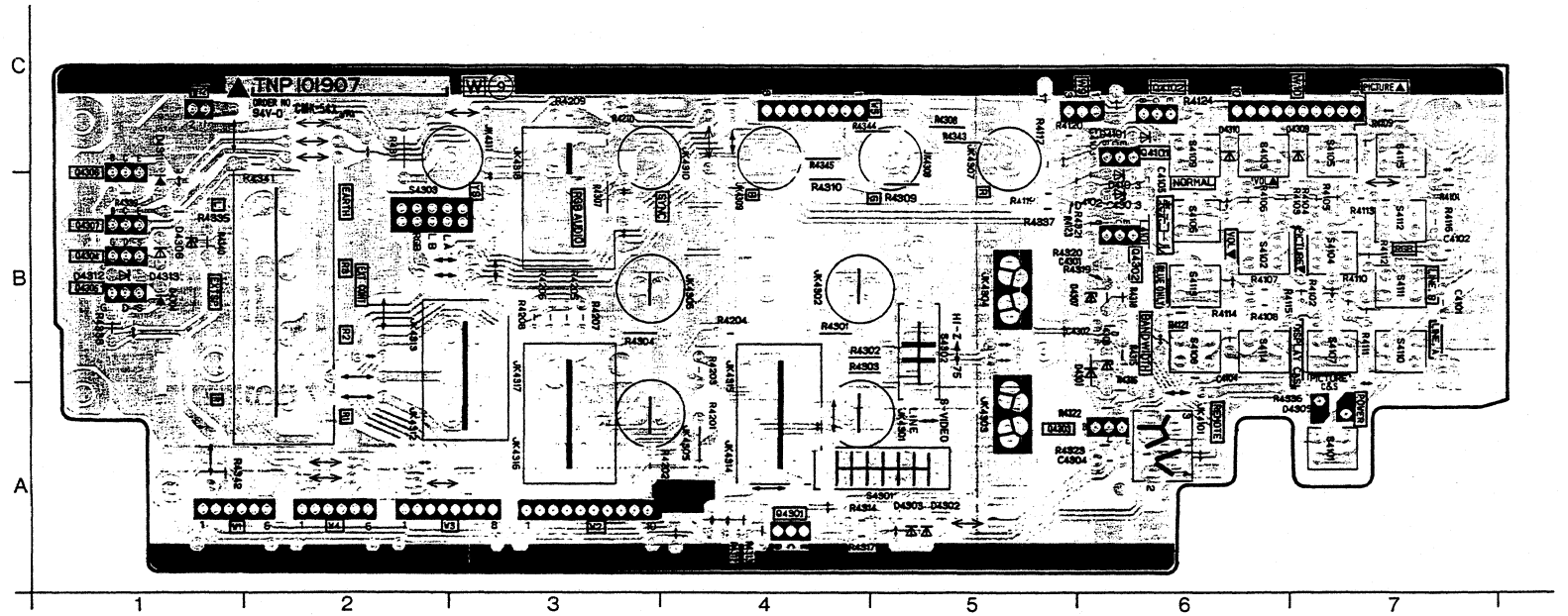
T-P.W. board TNP110196AZ



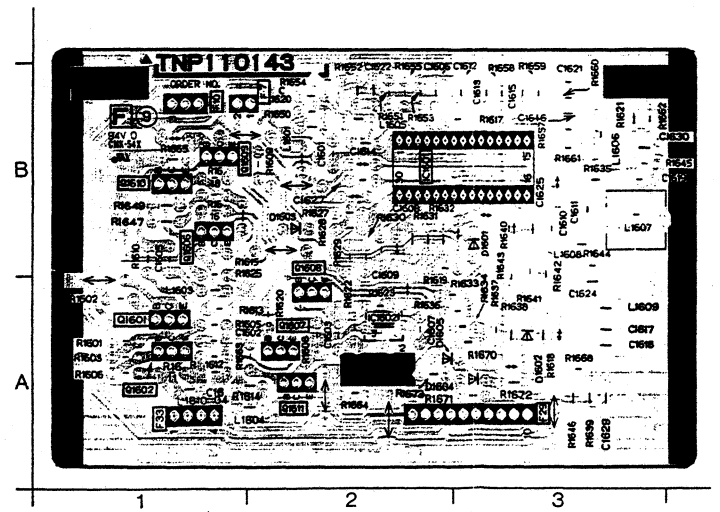
T-P.W. Board	
TP	
TPT1	A-1

ADDRESS INFORMATION

W-P.W. board TNP101907AZ



F-P.W. board TNP110143BZ



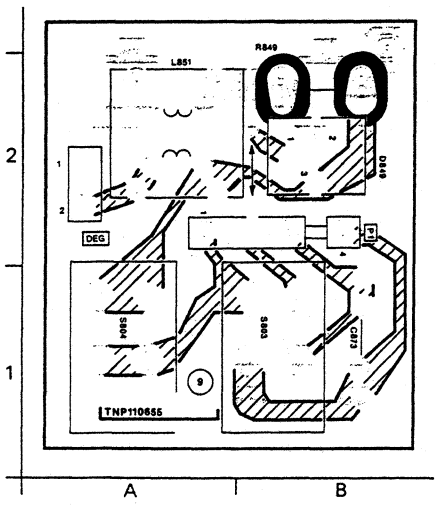
W-P.W. Board	
TRANSISTOR	
Q4101	C-6
Q4102	C-6
Q4301	A-4
Q4302	B-6
Q4303	A-5
Q4304	B-1
Q4305	B-1
Q4306	C-1
Q4307	B-1

ADDRESS INFORMATION

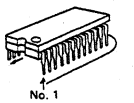
F-P.W. Board	
TRANSISTOR	
Q1601	A-1
Q1602	A-1
Q1606	B-1
Q1607	A-2
Q1608	B-2
Q1609	B-1
Q1610	B-1
Q1611	A-2
IC	
IC1601	B-2
IC1602	A-2

ADDRESS INFORMATION

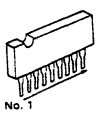
P-P.W. board TNP110145BZ



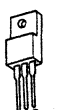
TERMINAL GUIDE OF IC'S, TRANSISTORS, DIODES



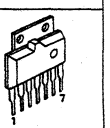
MN15151TKD : 52 Pin
CXA1024S : 48 Pin
AN5342K : 30 Pin
TDA4555 : 28 Pin
TDA2579A : 18 Pin
TVRAS018 : 16 Pin
TC4052BP : 16 Pin
SN74LS126AN : 14 Pin
TC4066BP : 14 Pin
AN5860 : 14 Pin
SN74LS07N : 14 Pin
AN6912 : 14 Pin
SN74LS09N : 14 Pin
µPC4558 : 8 Pin
TLP634GR : 6 Pin



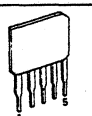
M5218AL : 8 Pin
AN5835 : 12 Pin
AN5862K : 13 Pin
TA7347P : 7 Pin
AN614 : 7 Pin
CX20125 : 8 Pin
TA8211AH : 12 Pin



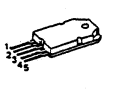
AN78M24
AN78M09
AN78L09
UPC2412HF
AN78L12
S1854LBM-6



AN5521

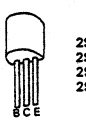


TNH11303



STR62001-M

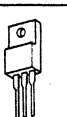
AN608P



2SC3940
2SA564AR
2SC1383R
2SC1318AR

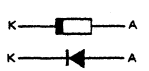
UN4211
UN4212
UN4214
UN421D
2SC2188

2SA1309AQ
2SC3311AQ
2SB1030AQ
2SD1423AR



2SC3942RL
2SC1685Q
2SC2653HLB
2SA1605RL
2SA879
2SA683R
2SD1264PLB

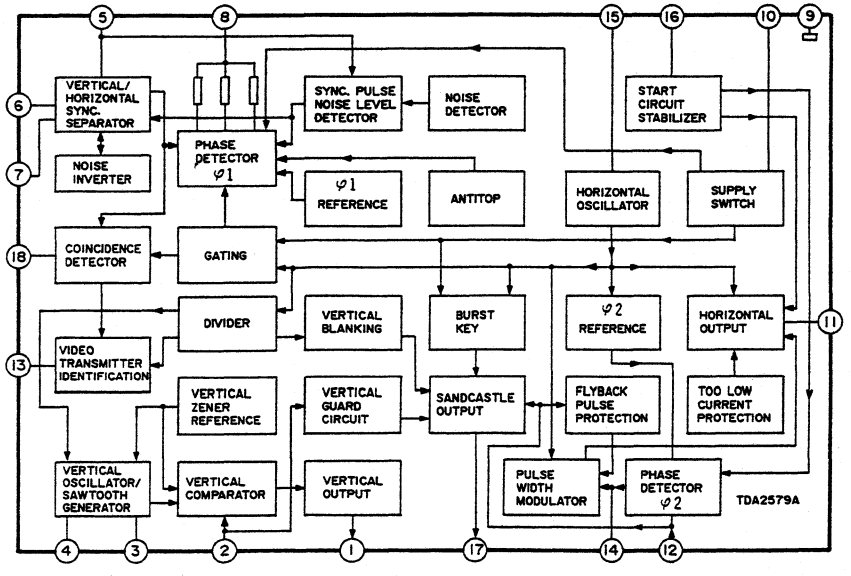
Diode



IC Function of Terminal and Equivalent Circuit

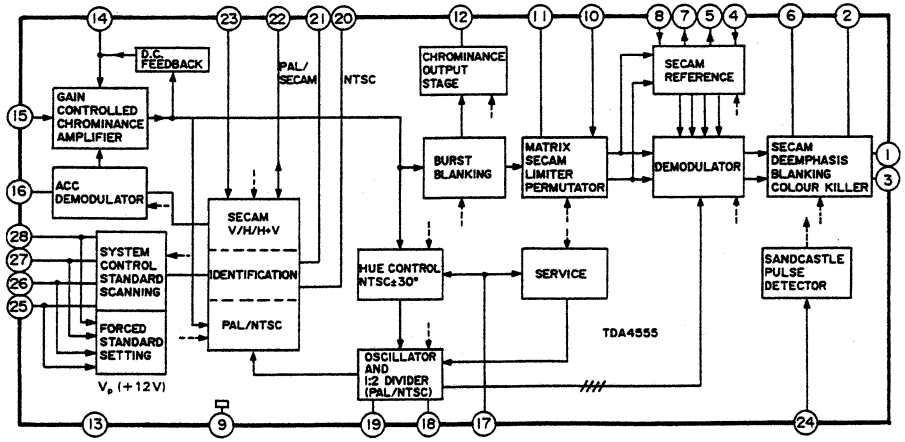
IC501 TDA2579A

PIN NO.	MARK	FUNCTION
1	V. OUT	Vertical Output.
2	V. FEED BACK	
3	SAW	Vertical ramp generator
4	SAW	Vertical amplitude
5	IN	Video signal input.
6	SYNC SEP.	Black level
7	SYNC SEP.	
8	AFC	
9	GND	Earth
10	Vcc	Supply Voltage
11	H. OUT	Horizontal drive output.
12	H. IN	Flyback pulse input
13	50/60Hz	
14	H. CENTRE	Horizontal portion
15	OSC	Horizontal OSC.
16	STARTA	Starter
17	SANDC. OUT	Standcastle output
18	DET	AFC



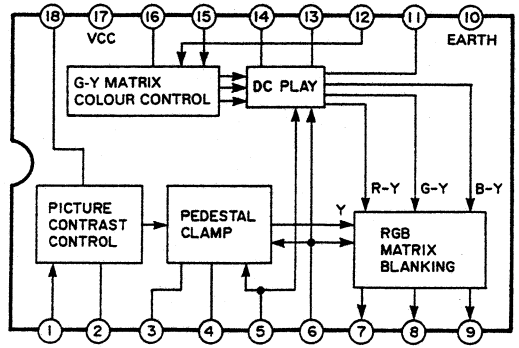
IC603 TDA4555

PIN NO.	MARK	FUNCTION
1	– (R-Y)	– (R-Y) Output
2	SECAM R-Y DEEM	R-Y SECAM deemphasis.
3	– (B-Y)	– (B-Y) Output.
4	B-Y REF	B-Y SECAM reference input.
5	B-Y REF	B-Y SECAM reference output.
6	SECAM B-Y DEEM	B-Y SECAM deemphasis.
7	R-Y REF	R-Y SECAM reference output.
8	R-Y REF	R-Y SECAM reference input.
9	EARTH	Earth.
10	DELAYED IN	64μs delay input.
11	MATRIX OUT	MATRIX SECAM limiter output.
12	CHROMA OUT	Chrominance output.
13	12V	Supply Voltage 12V.
14	FEED BACK FILTER	DC feedback.
15	CHROMA IN	Chrominance input.
16	AGC DEMODU.	AGC demodulator.
17	SERVICE (TINT)	Hue control.
18	CLK	PLL
19	CLK	7.16 MHz (NTSC) 8.86 MHz (PAL) Oscillator.
20	NTSC SYSTEM F.	NTSC identification.
21	P/S SYSTEM F.	PAL/SECAM identification.
22	SECAM IDENT ADJ.	SECAM identification reference.
23	SECAM SYS. SW	Earth.
24	SAND	Sandcastle pulse input.
25	SYSTEM NTSC 4.43	NTSC 4.43 MHz recognize input/output.
26	SYSTEM NTSC 3.58	NTSC 3.58 MHz recognize input/output.
27	SYSTEM SECAM	SECAM recognize input/output.
28	SYSTEM PAL	PAL recognize input/output.



IC606 AN5613

PIN NO.	MARK	FUNCTION
1	Y IN	Luminance (Y) signal input.
2	PICTURE	Picture control.
3	Y CLAMP	Y clamp condensor.
4	BRIGHT	Brightness control.
5	CLAMP	Pedestal clamp pulse input.
6	BLK	Blanking pulse input.
7	R OUT	R signal output.
8	G OUT	G signal output.
9	B OUT	B signal output.
10	EARTH	Earth.
11	(B-Y) C	B-Y clamp condensor.
12	(B-Y) IN	B-Y signal input.
13	(G-Y) CLAMP	G-Y clamp condensor.
14	(R-Y) C	R-Y clamp condensor.
15	(R-Y) IN	R-Y signal input.
16	COLOUR	Colour control.
17	Vcc	Supply voltage.
18	CONT.	Contrast control.



IC3301 CXA1024S

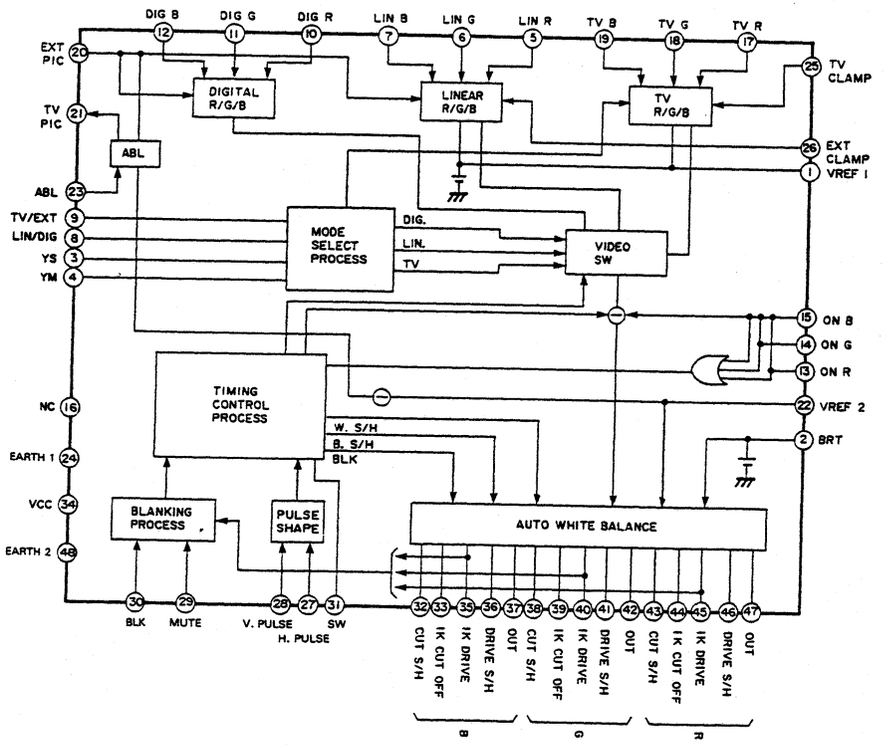
PIN NO.	MARK	FUNCTION
1	VREF1	Clamp standard voltage.
2	VREF2	Detect standard voltage.
3	YM	YM switch control.
4	Ys	Ys switch control.
5	LIN R	R, G, B signal input at Linear input mode.
6	LIN G	
7	LIN B	
8	LIN/DIG	Linear/Digital input mode select control.
9	TV/EXT	TV/EXT (Lin./Dig.) input mode select control.
10	DIG R	R, G, B signal input at Digital input mode.
11	DIG G	
12	DIG B	
13	ON R	R, G, B signal input at On screen display.
14	ON G	
15	ON B	
16	NC	Not connected.
17	TV R	R, G, B signal input at TV input mode.
18	TV G	
19	TV B	
20	EXT PIC	Picture control for Ext. signal (Lin./Dig.).
21	NC	Not connected.
22	BRT	Brightness control.
23	ABL	Decrease the picture and brightness control gain by DC voltage for inputed ABL. (PIC ABL : Less than 4.5V, BRT ABL : Less than 2.0V)
24	EARTH 1	Earth.
25	TV CLAMP	Clamp timing pulse input for TV input terminal.
26	EXT CLAMP	Clamp timing pulse input for Linear input terminal.
27	H. PULSE	Horizontal pulse input.
28	V. PULSE	Vertical pulse input.
29	MUTE	Terminal determined video mute time at SW on.
30	BLK	Blanking terminal for all period.
31	SW	ON/OFF output for Drive IK resistor.
32	B CUT S/H	Sample hold terminal for cut off control.
38	G CUT S/H	
43	R CUT S/H	
33	B IK OUT OFF	IK input (Cut off control for signal output).
39	G IK OUT OFF	
44	R IK CUT OFF	
34	Vcc	Supply voltage.
35	B IK DRIVE	IK input (Drive control for signal output).
40	G IK DRIVE	
45	R IK DRIVE	
36	B DRIVE S/H	Sample hold terminal for drive control.
41	G DRIVE S/H	
46	R DRIVE S/H	
37	B OUT	R, G, B signal output.
42	G OUT	
47	R OUT	
48	EARTH 2	Earth.

Input/Output Truth Value Table

TV/EXT	H	L			
LIN/DIG	X	H			L
Ys	X	L		H	X
YM	X	L	H	X	X
Control / Mode	TV	TV	TV −6dB	LIN	DIG

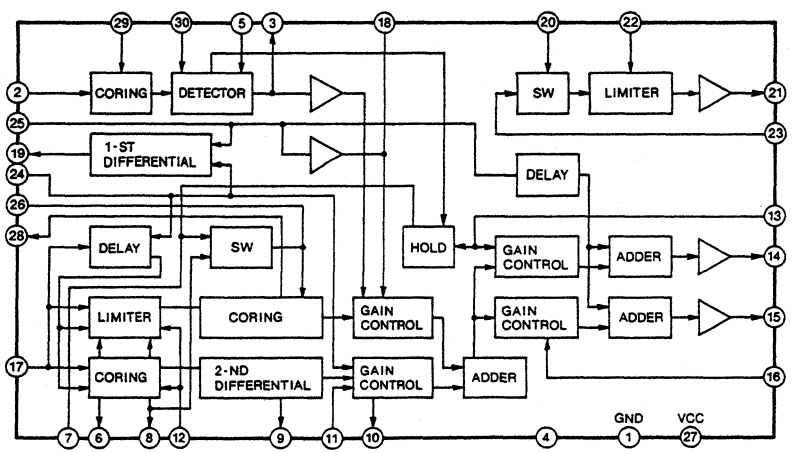
LIN : Linear
DIG : Digital

IC3301 CXA1024S



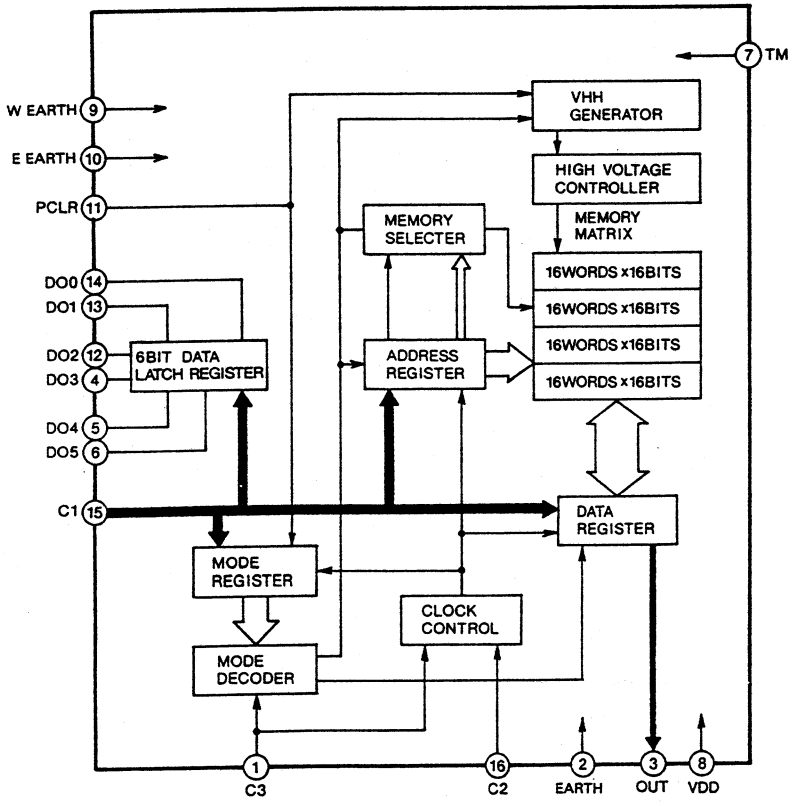
IC1601 AN5342K

PIN NO.	MARK	FUNCTION
1	EARTH	Earth.
2		Description input.
3		Description detection output.
4		Not connected.
5		Description gain control.
6		Differential signal (Bias1).
7		Noise reduction (Bias).
8		Differential signal (Bias2).
9		1st. differential output.
10		Bias (outline).
11		2nd. differential input.
12		Level control.
13		VM peaking control.
14		VM Y output.
15		Y output.
16		Sharpness control.
17		1st. differential input.
18		Y detection.
19		1st. differential output.
20		Ys input.
21		VM output.
22		VM limitter control.
23		VM input.
24		Not connected.
25		Y input.
26		Coring control.
27	Vcc	Supply voltage.
28		Coring bias.
29		Description bias.
30		Description gain control.



IC003 TVRAS018

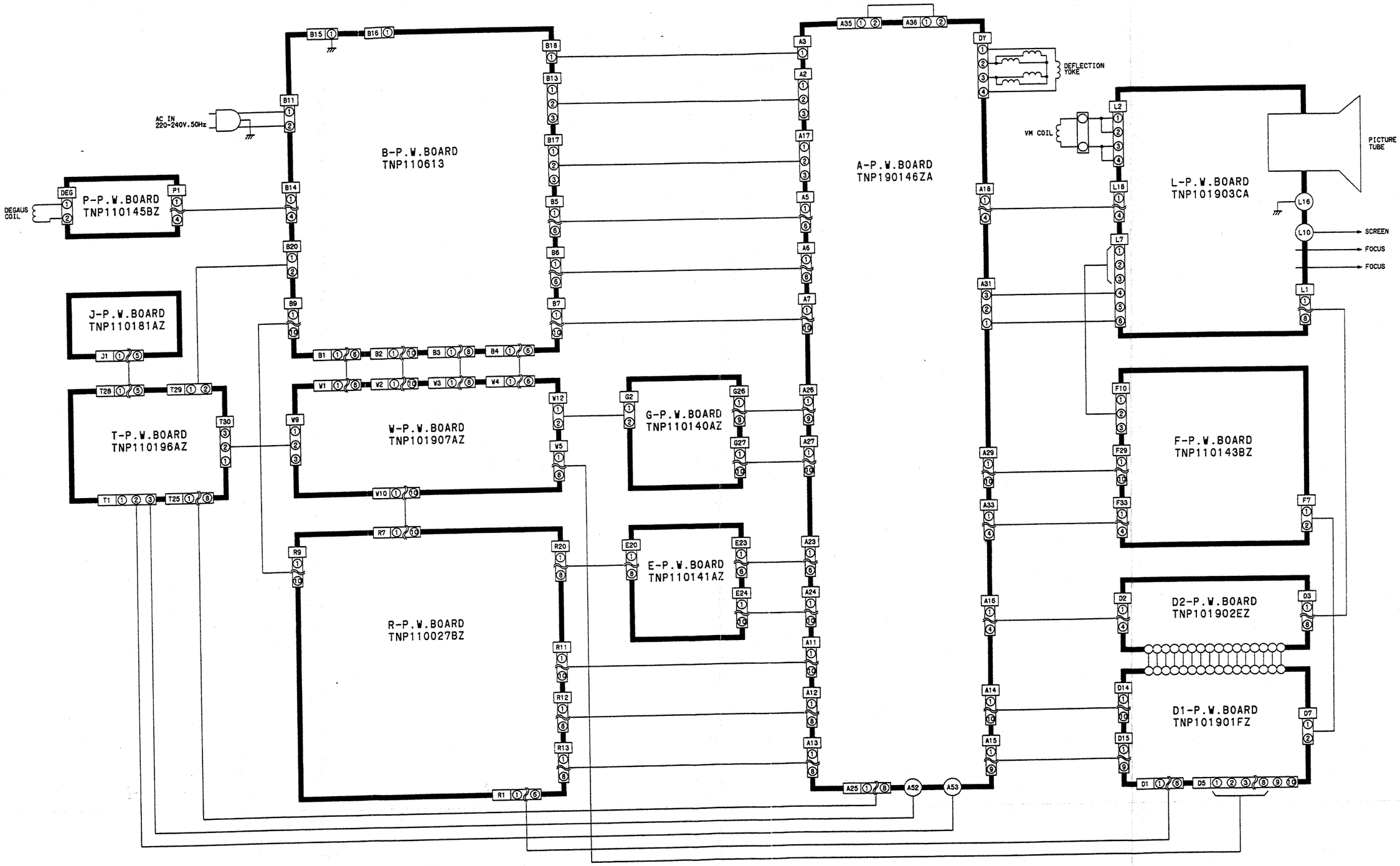
PIN NO.	MARK	FUNCTION
1	C3	Mode data select input.
2	EARTH	Earth.
3	OUT	Inout data output.
4	DO3	6 bit data output (open drain).
5	DO4	6 bit data output (open drain).
6	DO5	6 bit data output (open drain).
7	TM	Earth.
8	VDD	Supply voltage.
9	W EARTH	Earth.
10	E EARTH	Earth.
11	PCLR	Reset input (When power on/off).
12	DO2	6 bit data output (open drain).
13	DO1	6 bit data output (open drain).
14	DO0	6 bit data output (open drain).
15	C1	Mode, Address, Data input (6 bit data input).
16	C2	Shift clock input.



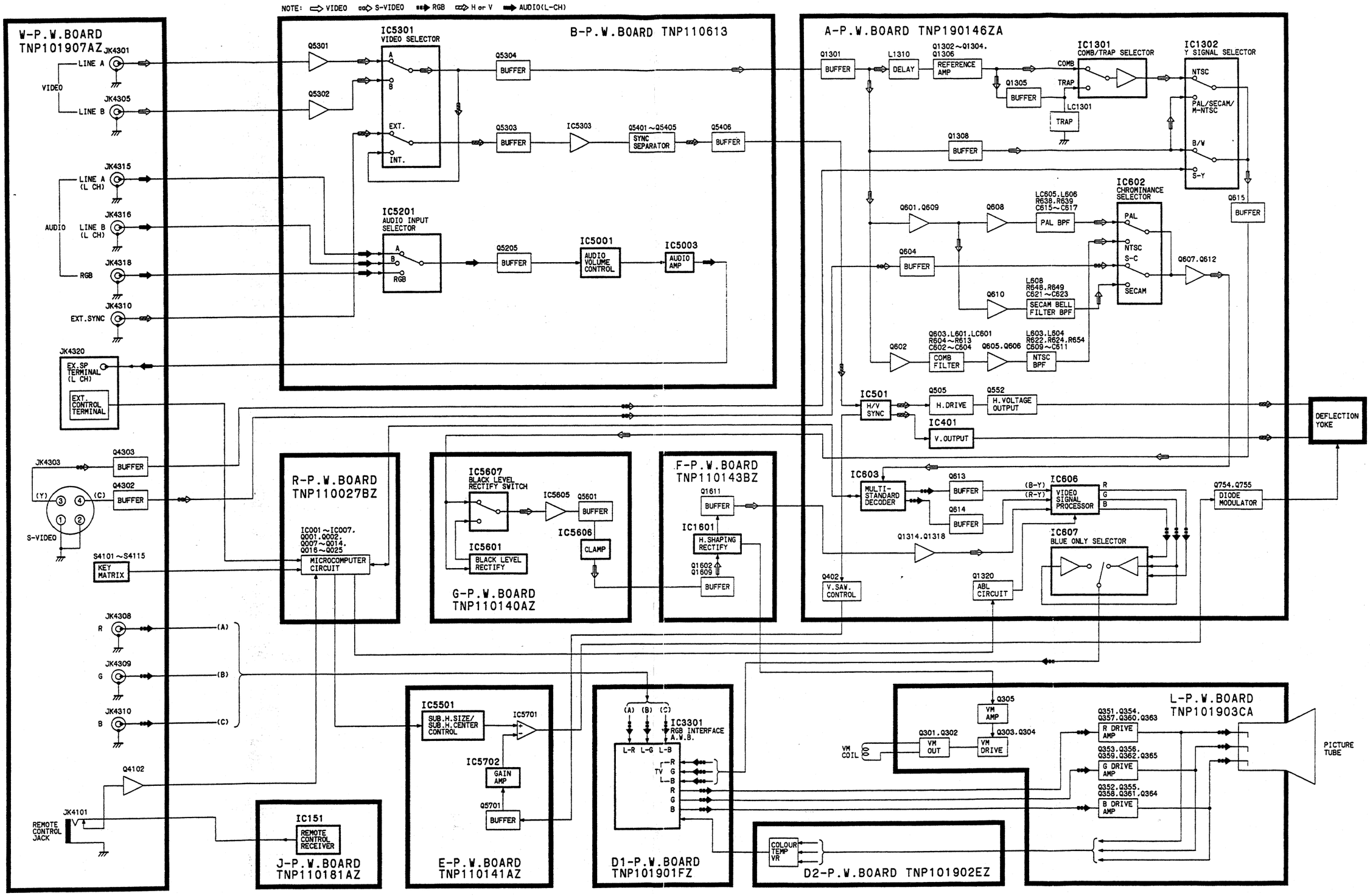
IC002 MN15151TKD

PIN NO.	MARK	FUNCTION	PIN NO.	MARK	FUNCTION
1	Vdd1	Supply voltage (+5V).	27	Vdd5	Supply voltage (+5V).
2	P21	TV system select input output.	28	Vdd6	
3	P22		29	PB0	M NOS data input/output.
4	P12	TV system select output.	30	Vdd7	Supply voltage (+5V).
5	P11	Comp/Trap select output.	31	PB2	M NOS control output.
6	P10	Power on/off output.	32	H sync.	H. sync. input.
7	RST	Reset input.	33	VOB	Bianking output.
8	P03	RGB select output.	34	VOW2	Character generator (Green).
9	P02	LINE B select output.	35	VOW1	Character generator (Red).
10	P01	LINE A select output.	36	RMIN	Remote control input.
11	Vdd2	Supply voltage (+5V).	37	ADAC5	6 bit analog DAC.
12	P00	Volume mute output.	38	ADAC4	
13	PDAC4	7 bit PWM.	39	ADAC3	
14	PDAC3		40	ADAC2	
15	PDAC2		41	ADAC1	
16	PDAC1		42	AVdd	Supply voltage (+5V).
17	TDAC	14 bit DAC.	43	VddC	
18	ADIN3	A/D input.	44	OSC2	Oscillolation.
19	ADIN2		45	OSC1	
20	ADIN1		46	VssC	Earth.
21	ADIN0		47	P31	RGB mix. input.
22	V sync.	V. sync. input.	48	P30	50/60Hz input.
23	PB1	M NOS control output.	49	STBY	Stand by.
24	PB3	Blue only on/off.	50	P22	Varsion select input.
25	Vdd3	Supply voltage (+5V).	51	PT0	M NOS control output.
26	Vdd4		52	Vss	Earth.

Interconnection



Block Diagram



Schematic Diagram

Improtant safety notice

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Notes :

1. Resistor
   All resistors are carbon 1/4W resistor, unless marked as follows :
   Unit of resistance is OHM [Ω] (K=1,000 , M=1,000,000).
   - ◯ : Nonflammable
   - △ : Solid
   - ⊿ : Wire Wound
   - ⊠ : Metal Oxide
   - ◎ : Metal Film
   - ⊗ : Fuse

2. Capacitor
   All capacitors are ceramic 50V capacitor, unless marked as follows :
   Unit of capacitance is μF, unless otherwise noted.
   - ⊗ : Temperature Compensation
   - Ⓜ : Polyester
   - ⓜ : Metalized Polyester
   - ⊠ : Polypropylene
   - +╫− : Electrolytic
   - NP╫ : Bipolar
   - Ⓣ : Dipped Tantalum
   - Ⓩ : Z-Type

3. Coil
   Unit of inductance is μH, unless otherwise noted.

4. Test Point
   - ⚲ : Test Point position

5. Voltage Measurement
   Voltage is measured by an electronic voltmeter receiving rainbow colour bar signal when all customer's are set to fully clockwise position.
6. This schematic diagram is the latest at the time of printing and subject to change without notice.
7. **Positive voltage lines**
   - Video signal
   - S-Video signal
   - RGB signal
   - V or H output signal
   - Audio signal

8. Switches
   - S803 : Main power switch in OFF position.
   - S804 : Degauss switch.
   - S3301 : Lever switch in B position.
   - S4301 : LINE A signal switch in VIDEO position.
   - S4302 : S-Video impedance switch in 75Ω.
   - S4303 : Superimposition switch in LINE B position.
   - S4101～S4115 : See W-P.W. board schematic diagram.

Note:
The power Circuit board contains a circuit area which uses separate power supply to isolate the earth connection.
The circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions.

PRECAUTIONS
1. Do not touch the hot part or the hot and cold parts at the same time or you may receive a shock.
2. Do not short-circuit the hot and cold circuits or a fuse may blow and parts may break
3. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously or a fuse may blow.
   Connect the earth of instruments to the earth connection of the circuit being measured.
4. Make sure to disconnect the power plug before removing the chassis.

Waveform Table

① 4.2Vp-p 0.1μs/cm	② 0.88Vp-p 10μs/cm	③ 0.9Vp-p 10μs/cm	④ 8.6Vp-p 20μs/cm	⑤ 5.6Vp-p 5ms/cm
⑥ 20Vp-p 5ms/cm	⑦ 0.25Vp-p 5ms/cm	⑧ 1.2Vp-p 5ms/cm	⑨ 0.76Vp-p 20μs/cm	⑩ 24Vp-p 20μs/cm
⑪ 950Vp-p 20μs/cm	⑫ 0.27Vp-p 10μs/cm	⑬ 1.1Vp-p 10μs/cm	⑭ 0.8Vp-p 10μs/cm	⑮ 1.1Vp-p 20μs/cm
⑯ 0.9Vp-p 10μs/cm	⑰ 1.3Vp-p 10μs/cm	⑱ 2.9Vp-p 10μs/cm	⑲ 2.6Vp-p 10μs/cm	⑳ 2.7Vp-p 10μs/cm
㉑ 1.8Vp-p 10μs/cm	㉒ 1.2Vp-p 10μs/cm	㉓ 0.38Vp-p 20μs/cm	㉔ 0.92Vp-p 10μs/cm	㉕ 1.6Vp-p 10μs/cm
㉖ 7.6Vp-p 5ms/cm	㉗ 30Vp-p 20μs/cm	㉘ 32Vp-p 20μs/cm	㉙ 14Vp-p 5ms/cm	㉚ 3Vp-p 10μs/cm
㉛ 3.2Vp-p 10μs/cm	㉜ 3.1Vp-p 10μs/cm	㉝ 3.4Vp-p 10μs/cm	㉞ 3.5Vp-p 10μs/cm	㉟ 3.3Vp-p 10μs/cm
㊱ 190Vp-p 10μs/cm	㊲ 165Vp-p 10μs/cm	㊳ 160Vp-p 10μs/cm		

F-P.W.Board TNP110143BZ

A-P.W.Board TNP190146ZA

IC1601 AN5342K H.SHAPE RECTIFY

IC1602 AN78L09 REG.

IC16JJ AN608P

Q1601 2SC3311A (Q,R) SWITCH

Q1602 2SA1309A (Q,R)

Q1601, Q1602 Q1606, Q1610 BAND WIDTH SELECT

Q1606 2SC3311A (Q,R)

Q1607 UN4212 SWIT-CH

Q1609 2SC3311A(Q,R) BUFFER

Q1610 2SC3311A(Q,R)

Q1301 2SC3311A (Q.R) BUFFER

Q1306 2SC3311A (Q.R)

Q1302 2SC3311A (Q.R)

Q1303 2SC3311A (Q.R)

Q1304 2SC3311A (Q.R)

REFFERENCE AMP

Q1327 UN4212 BUFFER

Q451,601~610 612~615,620 1301~1306,1308 1313,1314,1326 1318~1320 2SC3311A(Q.R)

IC501 TDA2579A H/V SYNC

SUB.V.SIZE

H.SYNC

Q505 2SC2653H H.DRIVE

Q552 2SD1732 H.OUT

Q402 UN4211 MUTE

Q807 SWITCH 2SC3311A(Q.R)

Q806 2SA879 PROTECT

IC801 STRS6309

IC802 UPC2412HF REG.

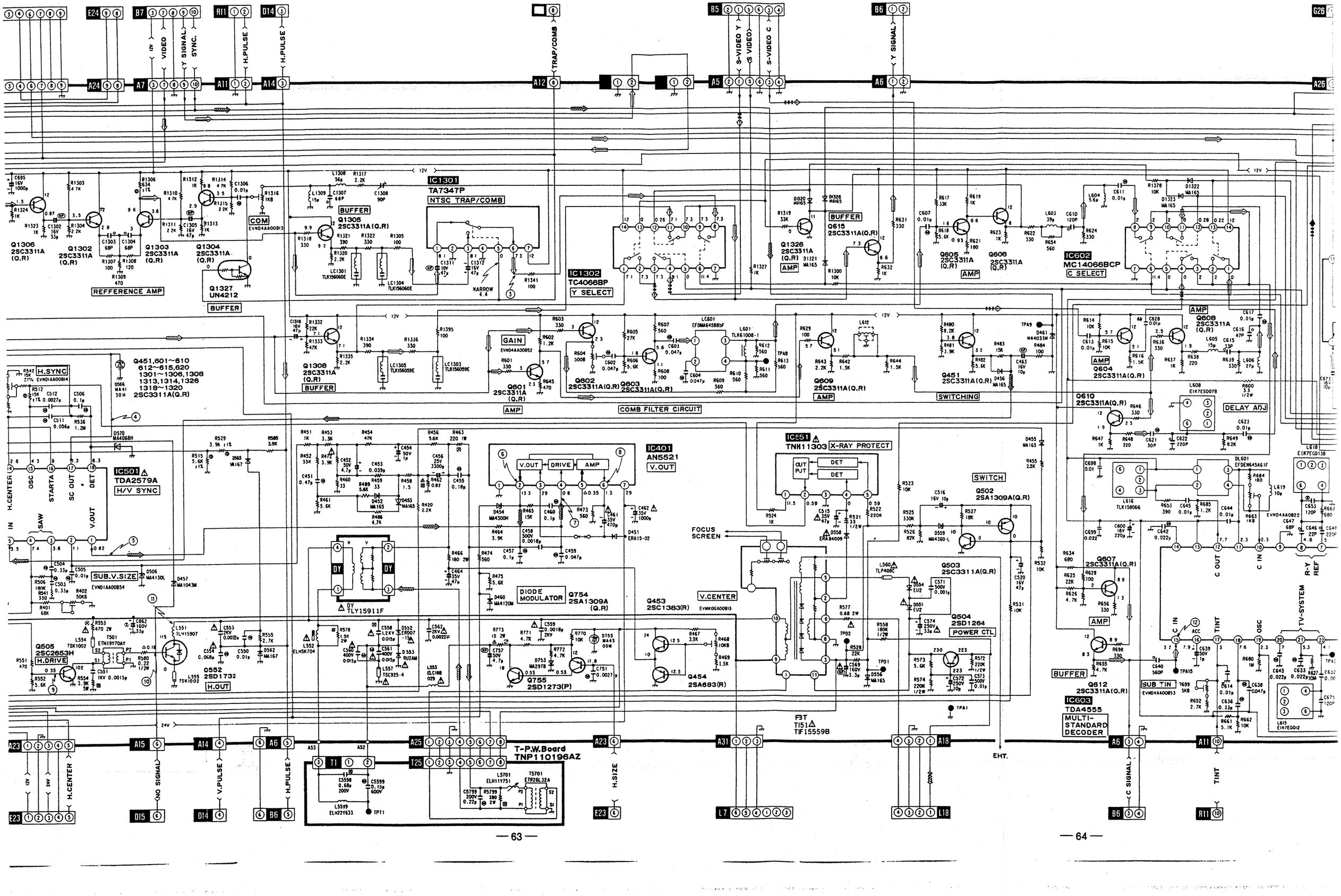
IC751 AN78M24 REG.

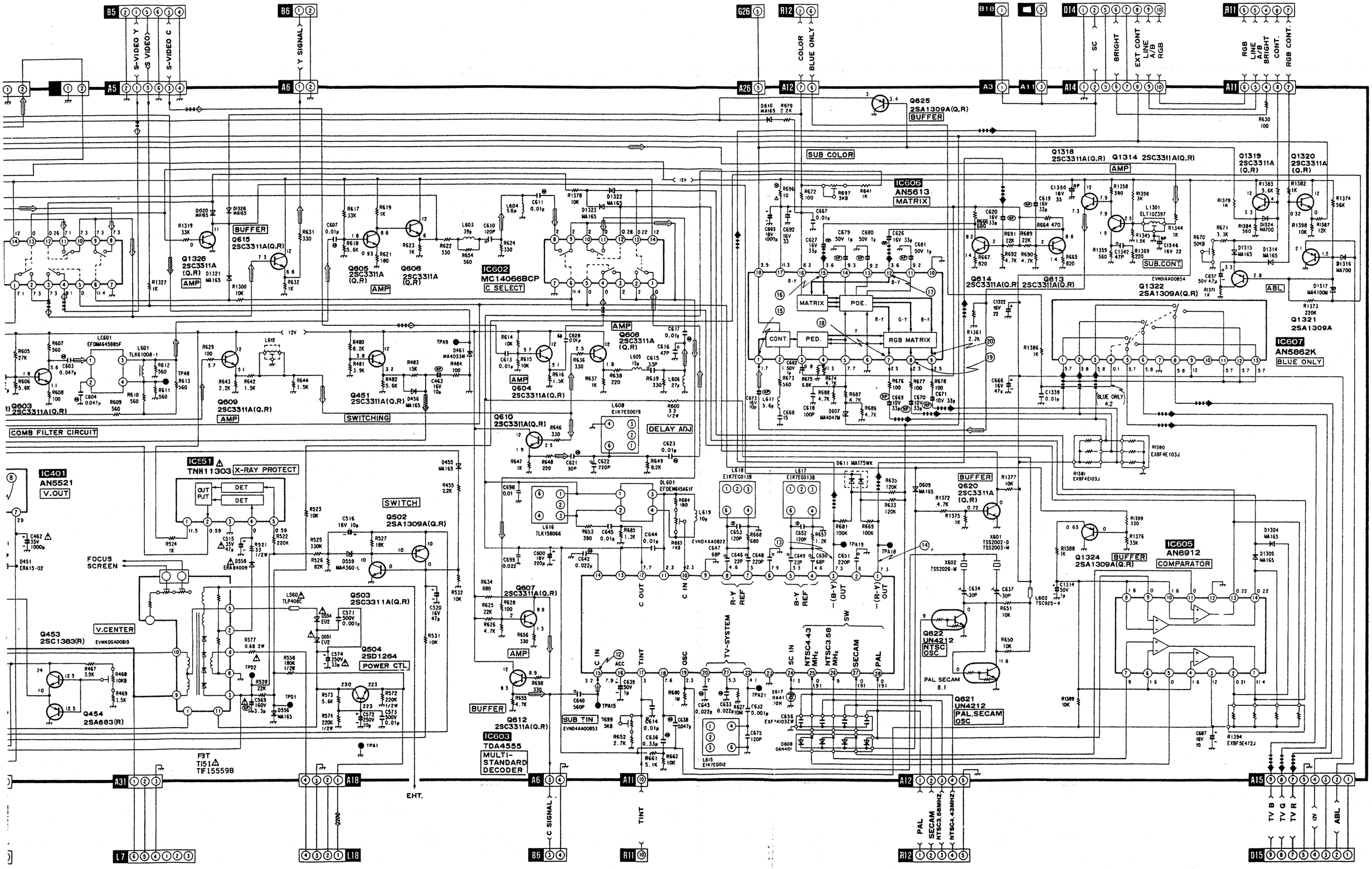
IC804 S1854LBM-6 ERROR DET.

IC806 TLP634GR ERROR DET.

Q801 2SA564AORS

Q401 2SC3311A(Q.R) AMP


12V
VIDEO
Y SIGNAL
SYNC.
H.PULSE
H.PULSE
TRAP/COMB
S-VIDEO Y
S-VIDEO
S-VIDEO C
Y SIGNAL
IC1301
TA7347P
NTSC TRAP/COMB
COM
EVND4AA00B13
REFFERENCE AMP
Q1306 2SC3311A (Q.R)
Q1302 2SC3311A (Q.R)
Q1303 2SC3311A (Q.R)
Q1304 2SC3311A (Q.R)
Q1327 UN4212
BUFFER
Q1305 2SC3311A(Q.R)
BUFFER
IC1302 TC4066BP
Y SELECT
Q1320 2SC3311A (Q.R)
AMP
BUFFER
Q615 2SC3311A(Q.R)
Q605 2SC3311A (Q.R)
AMP
Q606 2SC3311A (Q.R)
IC602 MC14066BCP
C SELECT
Q1308 2SC3311A (Q.R)
BUFFER
GAIN
EVH04AA00852
Q601 2SC3311A (Q.R)
AMP
Q602 2SC3311A(Q.R)
Q603 2SC3311A(Q.R)
COMB FILTER CIRCUIT
Q609 2SC3311A(Q.R)
AMP
Q451 2SC3311A(Q.R)
SWITCHING
AMP
Q608 2SC3311A (Q.R)
AMP
Q604 2SC3311A(Q.R)
Q451,601~610
612~615,620
1301~1306,1308
1313,1314,1326
1318~1320
2SC3311A(Q.R)
H.SYNC
EVN01AA00B14
IC501
TDA2579A
H/V SYNC
SUB.V.SIZE
EVN01AA00854
Q505 2SC2653H
H.DRIVE
Q552 2SD1732
H.OUT
IC401 AN5521
V.OUT
DIODE MODULATOR
Q754 2SA1309A (Q.R)
DY
TLY15911F
Q453 2SC1383(R)
V.CENTER
EVMK0GA00B13
Q755 2SD1273(P)
Q454 2SA683(R)
IC551
TNH11303
X-RAY PROTECT
FOCUS
SCREEN
SWITCH
Q502 2SA1309A(Q.R)
Q503 2SC3311A(Q.R)
Q504 2SD1264
POWER CTL
F3T
T151
TIF15559B
EHT.
Q607 2SC3311A(Q.R)
AMP
BUFFER
Q612 2SC3311A(Q.R)
IC603
TDA4555
MULTI-STANDARD DECODER
SUB TIN
EVN04AA00853
DELAY ADJ
DL601
EFDEN645A61F
T-P.W.Board
TNP110196AZ
H.CENTER
NO SIGNAL
V.PULSE
H.PULSE
H.SIZE
EHT.
C SIGNAL
TINT
TV-SYSTEM


B5
S-VIDEO Y
(S VIDEO)
S-VIDEO C
B6
Y SIGNAL
G26
R12
COLOR
BLUE ONLY
B16
D14
SC
BRIGHT
EXT CONT
LINE A/B RGB
A11
RGB LINE A/B BRIGHT CONT.
RGB CONT.
A5
A6
A26
A12
A3
A1
A14
A11
SUB COLOR
Q625 2SA1309A(Q,R) BUFFER
IC606 AN5613 MATRIX
Q1318 2SC3311A(Q,R) Q1314 2SC3311A(Q,R) AMP
Q1319 2SC3311A (Q,R)
Q1320 2SC3311A (Q,R)
MATRIX
PDE.
CONT.
PED.
RGB MATRIX
Q614 2SC3311A(Q,R)
Q613 2SC3311A(Q,R)
SUB.CONT
Q1322 2SA1309A(Q,R)
ABL
Q1321 2SA1309A
IC607 AN5862K BLUE ONLY
BUFFER Q615 2SC3311A(Q,R)
Q1326 2SC3311A (Q,R) AMP
Q605 2SC3311A (Q,R) AMP
Q606 2SC3311A (Q,R)
IC602 MC14066BCP C SELECT
AMP Q608 2SC3311A (Q,R)
AMP Q604 2SC3311A(Q,R)
Q603 2SC3311A(Q,R) AMP
Q609 2SC3311A(Q,R) AMP
Q451 2SC3311A(Q,R) SWITCHING
Q610 2SC3311A(Q,R)
DELAY ADJ
COMB FILTER CIRCUIT
IC401 AN5521 V.OUT
IC651 TNH11303 X-RAY PROTECT
SWITCH Q502 2SA1309A(Q,R)
FOCUS SCREEN
Q503 2SC3311A(Q,R)
V.CENTER
Q453 2SC1383(R)
Q454 2SA683(R)
Q504 2SD1264 POWER CTL
F3T TI51 TIF155598
EHT.
Q607 2SC3311A(Q,R) AMP
BUFFER Q612 2SC3311A(Q,R)
IC603 TDA4555 MULTI-STANDARD DECODER
C OUT
C IN
R-Y REF
B-Y REF
-(B-Y) OUT
-(R-Y) OUT
SW
C IN
TINT
OSC
TV-SYSTEM
SC IN
NTSC4.43 MHz
NTSC3.58 MHz
SECAM
PAL
SUB TIN
BUFFER Q620 2SC3311A (Q,R)
Q622 UN4212 NTSC OSC
PAL SECAM
Q621 UN4212 PAL.SECAM OSC
IC605 AN6912 COMPARATOR
Q1324 2SA1309A(Q,R) BUFFER
C SIGNAL
TINT
PAL
SECAM
NTSC3.58MHZ
NTSC4.43MHZ
TV B
TV G
TV R
12V
ABL
A31
A18
A6
A11
A12
A15
L7
L18
B6
R11
R12
D15

P-P.W.Board TNP110145BZ

W-P.W.Board TNP101907AZ

T-P.W.Board TNP

B-P.W.Board TNP110613

S4101	POWER	S4106	RECALL	S4111	L
S4102	VOL−	S4107	PICTURE	S4112	P
S4103	VOL+	S4108	BAND WIDTH	S4113	BLUE
S4104	−	S4109	NORMAL	S4114	S
S4105	+	S4110	LINE A	S4115	SYS

	①	②	③	④
LINE A	0	9.7	0.42	10
LINE B	7.2	7.8	0.42	8.8
RGB 1	0	0	8.8	0

T-P.W.Board TNP110196AZ J-P.W.Board TNP110181AZ

R-P.W.Board TNP110027BZ

S4101	POWER	S4106	RECALL	S4111	LINE B
S4102	VOL−	S4107	PICTURE	S4112	RGB
S4103	VOL+	S4108	BAND WIDTH	S4113	BLUE ONLY
S4104	−	S4109	NORMAL	S4114	SIZE
S4105	+	S4110	LINE A	S4115	SYSTEM

TNP11O027BZ

2BP
E(I) SELECTOR

IC003 TVRAS018
DATA IN
DATA IN
DATA OUT

IC001 TC4052BP
TV SYSTEM SELECTOR

IC007 TVSM5218L
CONTRAST ADJ

Q007
Q008 2SA1309A (Q,R)
Q009
Q010

Q002 2SC3311A(Q,R)
INVERT
Q001 2SC3311A(Q,R)

Q019 2SC3311A(Q,R)
Q018 2SC3311A(Q,R)
Q017 2SC1318A(R,S)
SWITCH
REG.

TV SYSTEM SELECT
Q020 2SC3311A(Q,R)

Q024 2SC3311A (Q,R)
Q025 2SC3311A (Q,R)

Q007,009,010 2SC3311A (Q,R)
AMP

PAL,SECAM
NTSC
COMB/TRAP
POWER OUT
RESET
RGB
LINE A
LINE B
DEFEAT
V.SIZE
H.SIZE
H.CENTER
RGB CONTRAST
VOLUME
KEY IN
V.PULSE
MEMORY
BLUE ONLY

50/60Hz
RGB
OSC
COLOR
TINT
BRIGHT
CONTRAST
SHARPNESS
REMOTE IN
ON-SCREEN R G BLK
H.PULSE
MEMORY

IC002 MN15151TKD
MICRO COMPUTER

IC006 SN74LS126AN

Q012 2SA564A(Q,R)
Q021 2SC3311A(Q,R)
Q013 2SC3311A(Q,R)
AMP

Q014 2SA564A (Q,R)
BUFFER
Q016 2SA564A(Q,R)
BUFFER

IC004 SN74LS09N

Q011 2SA1309A(Q,R)
SWIT -CH

Q5004 2SC3311A (Q,R)
VOLUME

IC5302 SN74LS07N
INPUT SELECTOR

IC5003 TA8211AH AUDIO AMP

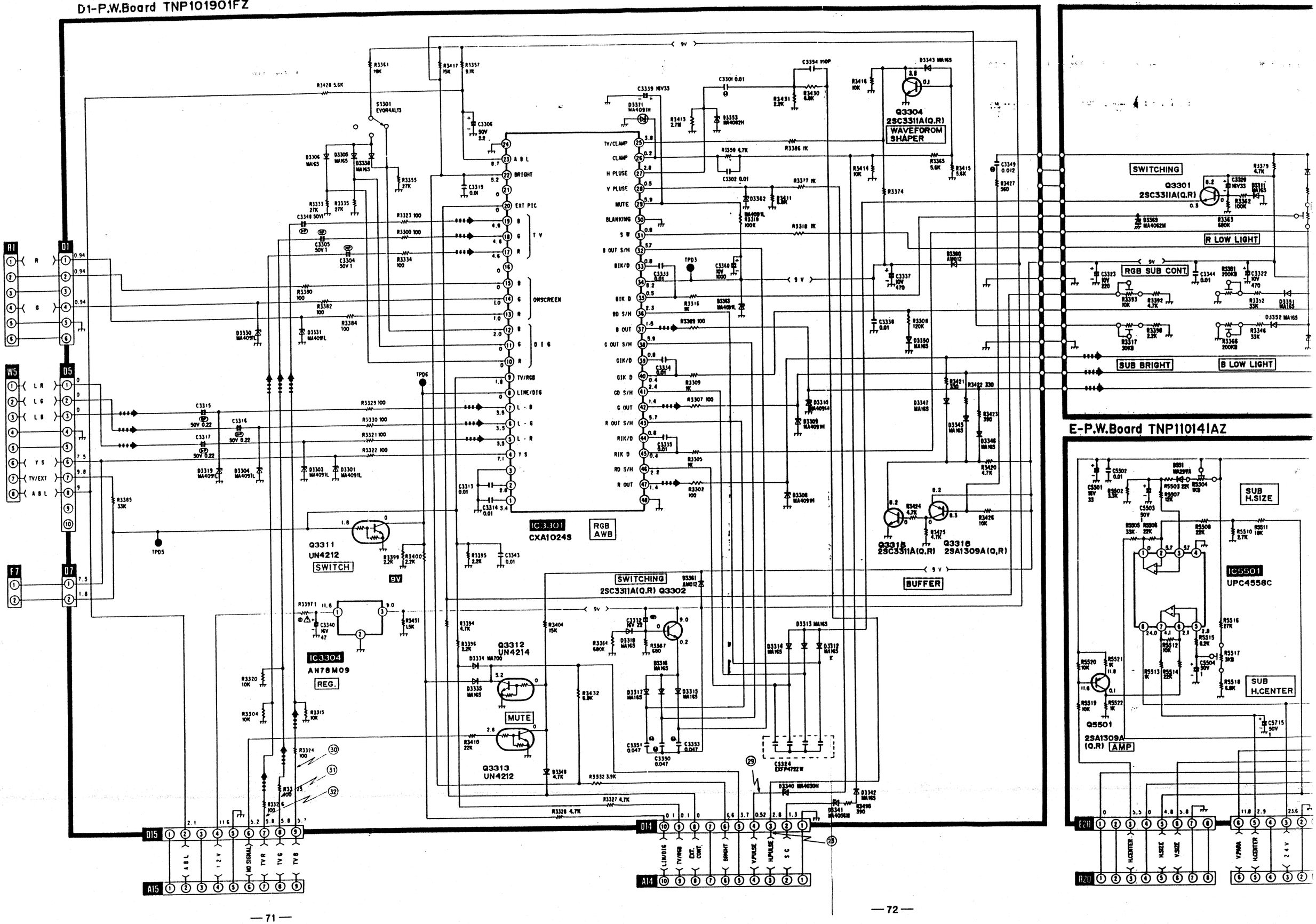
V.PULSE SEPARATOR
Q023 UN421D
Q022 UN4211

V.PULSE
V.SIZE
H.SIZE
H.CENTER
RGB CONTRAST
BLUE ONLY
H.PULSE
COLOR
SHARPNESS
TINT
BRIGHTNESS
ONSCREEN R
ONSCREEN G

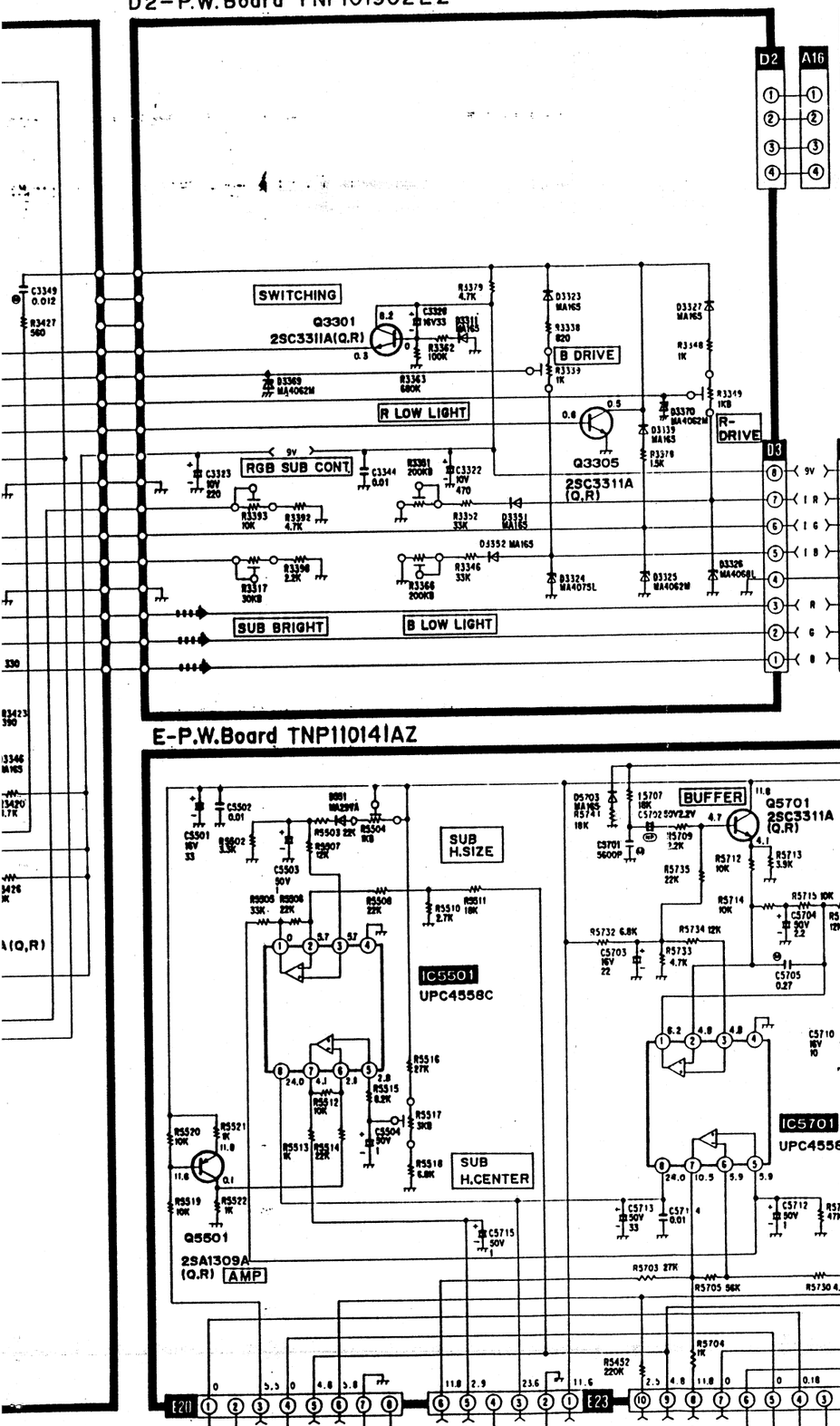
D1-P.W.Board TNP101901FZ

D2-P.W.Board TNP101902EZ

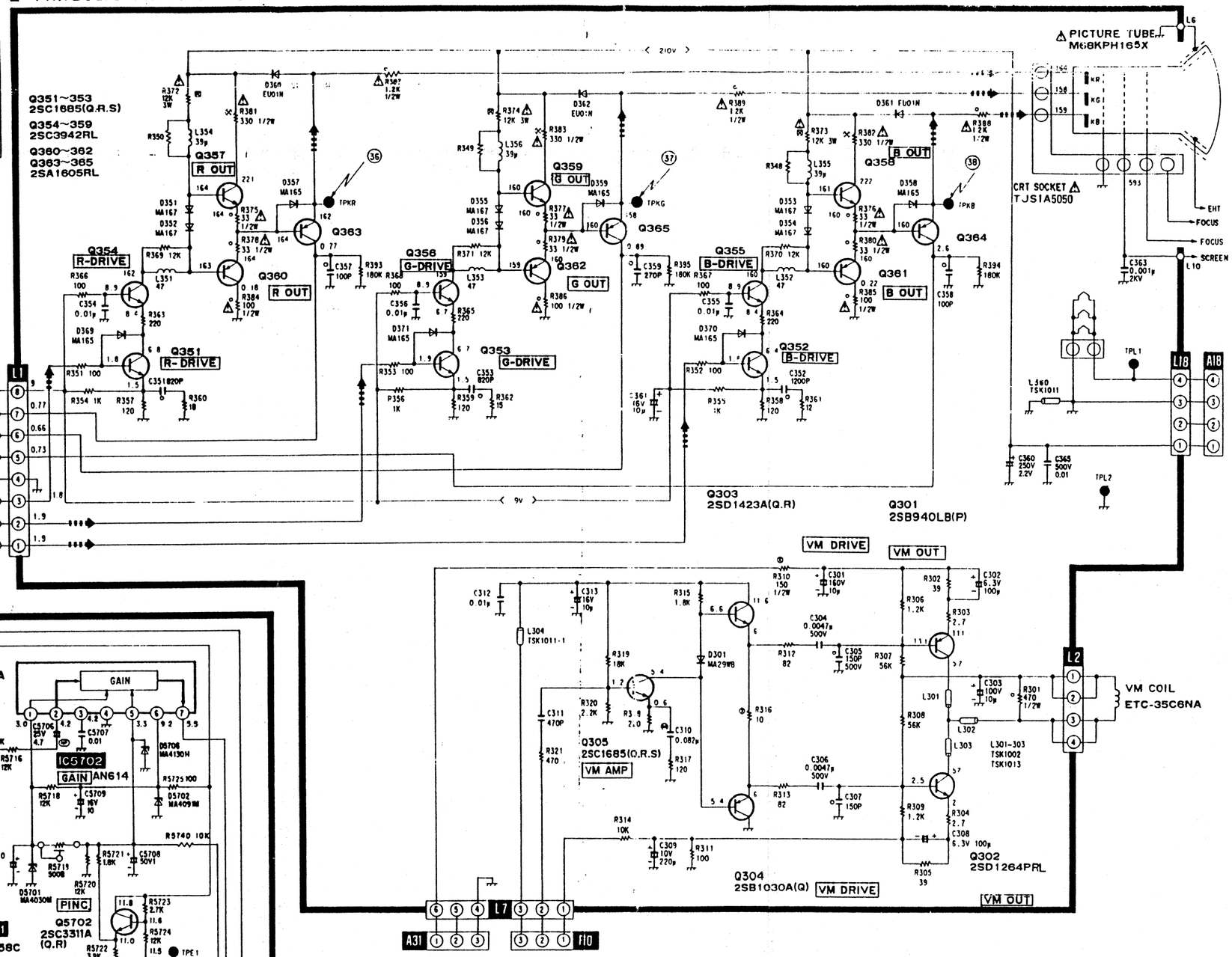
E-P.W.Board TNP110141AZ



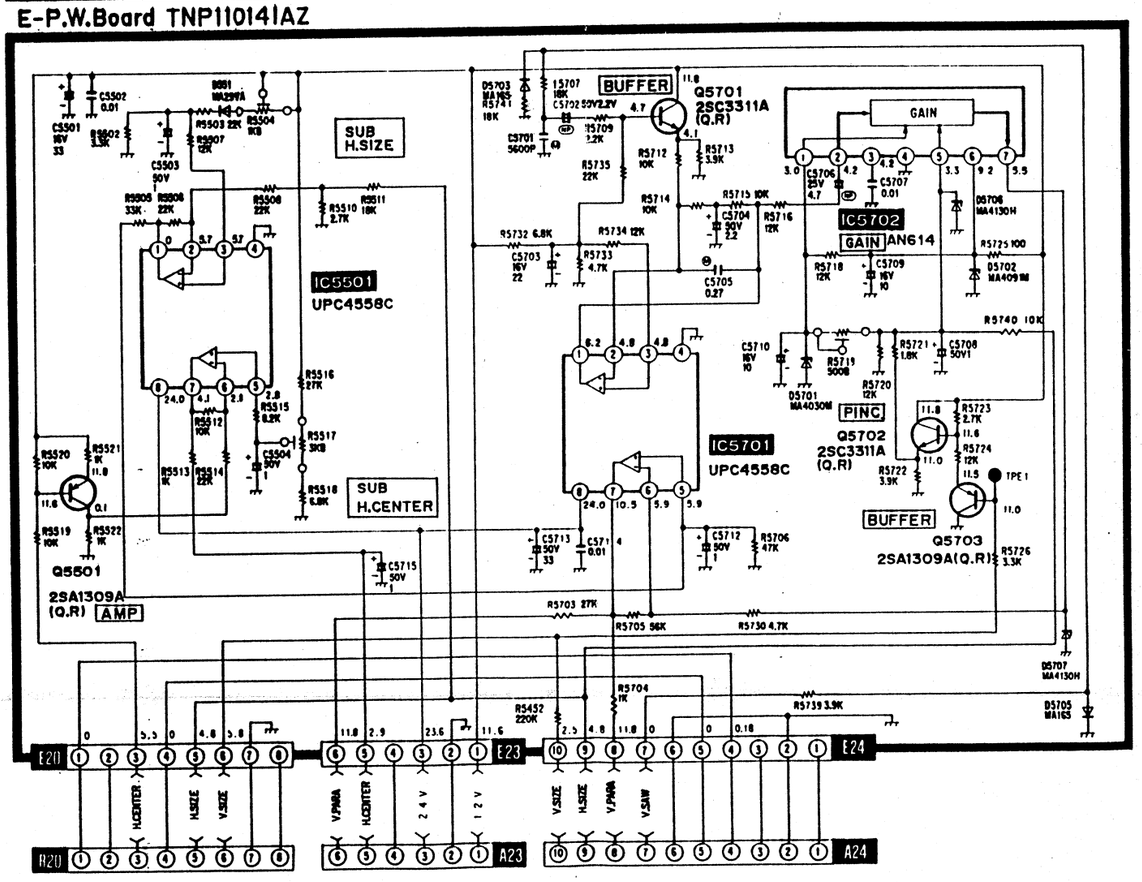
D2-P.W.Board TNP1O1902EZ



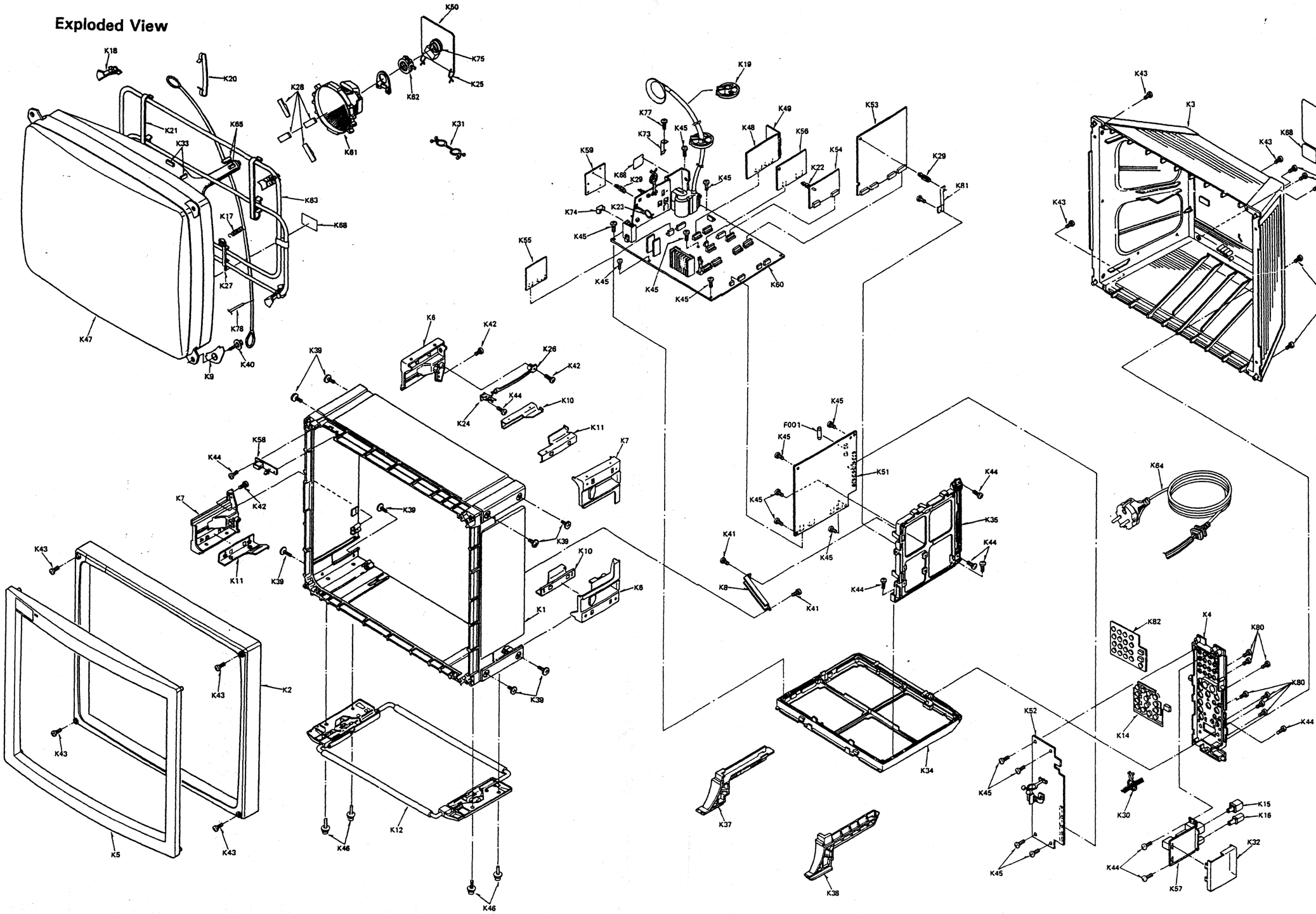
L-P.W.Board TNP1O1903CA



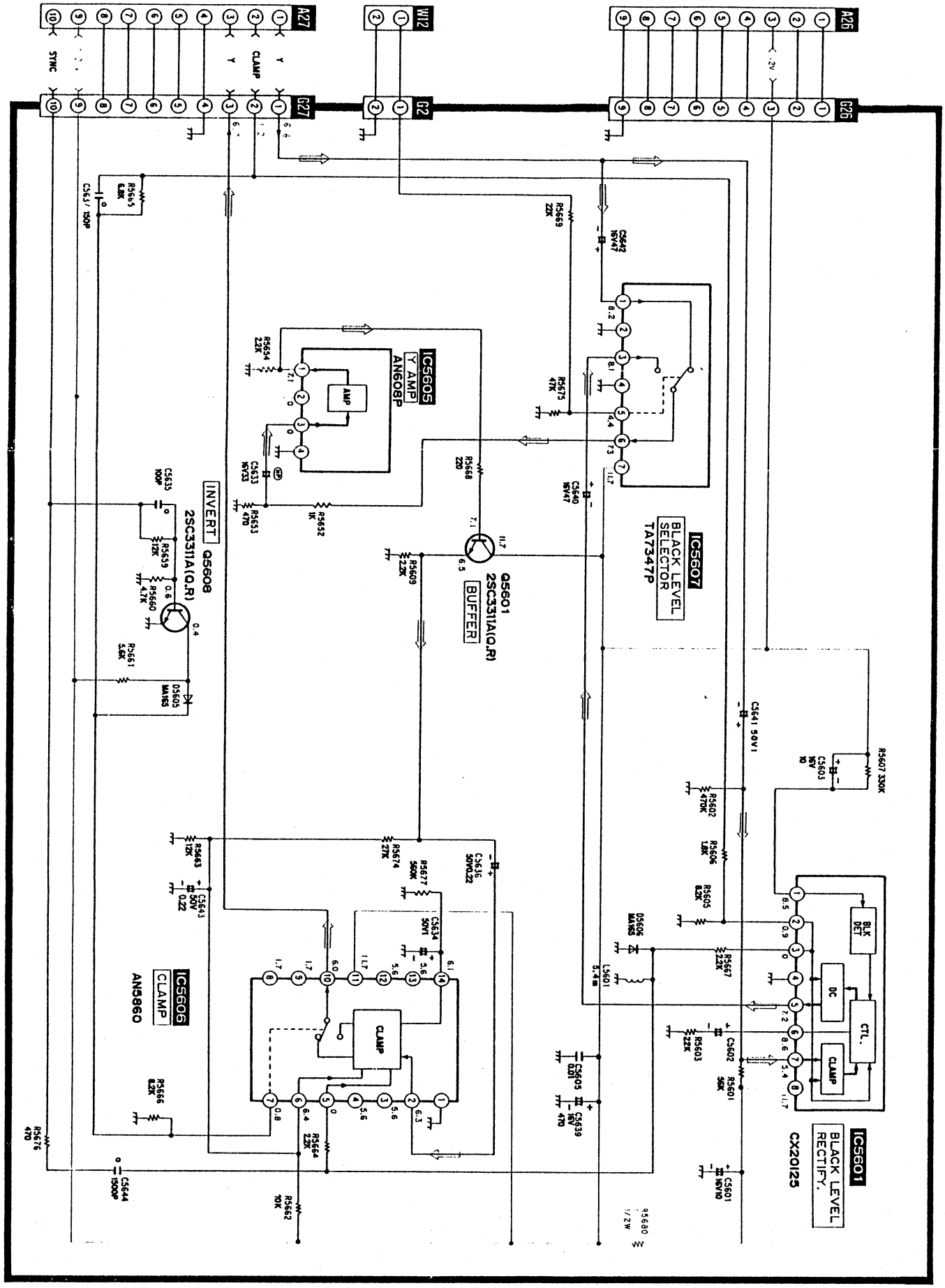
E-P.W.Board TNP110141AZ



Exploded View



G-P.W.Board TNP110140



Replacement Parts List

Important Safety Notice

Components identified by the International symbol ⚠ have special characteristics important for safety.
When replacing any of these components use only manufacture's specified Parts.

Abbreviation of Part Name and Description

1. Resistor

Example:

ERD25TJ104 C 100KOHM, J, 1/4W
TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Carbon F : Fuse M : Metal Oxide Metal Film S : Solid W : Wire Wound	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%

2. Capacitor

Example:

ECKF1H103ZF C 0.01PF, Z, 50V
TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Ceramic E : Electrolytic P : Polyester PP : Polypropylene S : Styrol T : Tantalum	C : ±0.25 pF D : ±0.5 pF F : ±1 pF J : ±5% K : ±10% L : ±15% M : ±20% P : ±100%,–0% Z : ±80%,–20%

Note: For M○○ of Ref. No., not indicate illustration of it part on "Exploded Views".

Ref.No.	Part No.	Description
	CABINET & MAIN PARTS	
K1	TKY132500-2	CABINET ASSY
K2	TKE1317D01	ESCUTCHEON ASSY
K3	TKU589602-1	REAR COVER W/SIDE PANEL
K4	TKP1313844	TERMINAL BOARD PANEL
K5	TKM130902-1	FRONT MASK ASSY
M1	TKR53680	METAL FITTING (R)
M2	TKR53690	METAL FITTING (L)
K6	TKK139216-3	HANDLE BRACKET (A)
K7	TKK139217-3	HANDLE BRACKET (B)
K82	TKK139485	EARTH PLATE
K9	TKZ138229	CRT REINFORCE BRACKET
K10	TKZ138961	NUT BRACKET(A)
K11	TKZ138962	NUT BRACKET(B)
M4	TBL133305	LEG SPACER
K12	TBL135901	TILT ARM
K13	TBM130760	MODEL PLATE
K14	TBX1483200	CONTROL BUTTON
K15	TBX8780500	MAIN POWER BUTTON
K16	TBX8780600	DEGAUSS BUTTON
K17	TES1251	SPRING(FOR EARTH LEAD)
K18	TMM14468	DEGAUSS COIL CLAMPER
M5	TMM14469	CLAMPER
K19	TMM15404-1	SPACER RING
M6	TMM15423-1	CLAMPER
K20	TMM15434	DEGAUSS COIL CLAMPER
K21	TMM15441	CLAMPER
K22	TMM15442	PCB HOOK
K23	TMM16452	CLAMPER
K24	TMM16473-1	CLAMPER
M7	TMM16480-1	CLAMPER
K25	TMM16497-1	CLAMPER
K26	TMM17443	ANODE CLAMPER
K28	TMM17553	DY WEDGE
M8	TMM6428-1	LEAD CLAMPER
K29	TMM6436-1	PCB HOOK
K30	TMM6463	CLAMPER
M9	TMM7468	CLAMPER
K31	TMM76429-1	PURSE LOCK
K32	TMK33539	BARRIER
K33	TXFMK01H55	PARMALLOY
K34	TMX13101-2	MAIN CHASSIS FLAME
K35	TMX13102	PC BOARD BRACKET
K80	TMX13103	PCB REINFORCE PLATE
K36	TMX6434-1	PCB HOOK
K37	TMZ149827	CHASSIS RAIL (L)
K38	TMZ149828	CHASSIS RAIL (R)
K39	THE908Z	DECORATION SCREW
K40	THT1009R	SCREW(FOR CRT)
M11	XTB4+10A	SCREW
K41	XTB4+12A	SCREW
M12	XTB4+12AFZ	SCREW
K42	XTB4+15A	SCREW
K43	XTB4+15AFZ	SCREW
K44	XTV3+12A	SCREW
K81	XTV3+6JFZ	SCREW
K45	XTW3+10T	SCREW
M15	XYA4+EF8	SCREW
K46	XYN5+F20	SCREW
⚠ K47	M68KPH165X	PICTURE TUBE
K48	TNP101901FZ	PC BOARD W/COMPONENT(D1)
K49	TNP101902EZ	PC BOARD W/COMPONENT(D2)
K50	TNP101903CA	PC BOARD W/COMPONENT(L)
K52	TNP101907AZ	PC BOARD W/COMPONENT(W)
K53	TNP110027BZ	PC BOARD W/COMPONENT(R)
K54	TNP110140AZ	PC BOARD W/COMPONENT(G)
K55	TNP110141AZ	PC BOARD W/COMPONENT(E)
K56	TNP110143BZ	PC BOARD W/COMPONENT(F)
K57	TNP110145BZ	PC BOARD W/COMPONENT(P)
K58	TNP110181AZ	PC BOARD W/COMPONENT(J)
K59	TNP110196AZ	PC BOARD W/COMPONENT(T)

	Ref.No.	Part No.	Description
	K51	TNP110613	PC BOARD W/COMPONENT(B)
	K60	TNP190146ZA	PC BOARD W/COMPONENT(A)
⚠	K61	TLY15911F	DEFLECTION YOKE
	K62	ETC-35C6NA	CONVERGENCE COIL
⚠	K63	TLK269068A	DEGAUSS COIL
	M16	TNQ2681-1	REMOTE CONTROL UNIT
⚠	K64	TSX1431	POWER CORD <FT-2900>
⚠	K64	TSX1432	POWER CORD <FT-2900G>
	M17	TSX935	REMOTE CONTROL CORD
	M18	TXAJTA2MDL9	3P CONNECTOR ASSY/A2-B13
	M19	TXAJTA35MJLZ	2P CONNECTOR ASSY/A35-A36
	M20	TXAJTB15MJKZ	1P CONNECTOR ASSY/B15
	M21	TXAJTB18MDL9	1P CONNECTOR ASSY/B18-A3
	M22	TXAJTB20MDL9	2P CONNECTOR ASSY/B20-T29
	M23	TXAJTDYMDL9	DY LEAD ASSY
	M24	TXAJTD1MDL9	6P CONNECTOR ASSY/R1-D1
	M25	TXAJTD7MDL9	2P CONNECTOR ASSY/F7-D7
	M26	TXAJTG2MDL9	2P CONNECTOR ASSY/G2-W12
	M27	TXAJTJ1MDL9A	5P CONNECTOR ASSY/T28-J1
	M28	TXAJTL1MDL9	8P CONNECTOR ASSY/L1-D3
	M29	TXAJTL18MDL9	4P CONNECTOR ASSY/L18-A18
	M30	TXAJTL2MDL9	4P CONNECTOR ASSY/L2-CY
	M31	TXAJTL7MDL9B	6P CONNECTOR ASSY /L7~F10,A31
	M32	TXAJTP1MJUZ	4P CONNECTOR ASSY/B14-P1
	M33	TXAJTR20MDL9	8P CONNECTOR ASSY/E20-R20
	M34	TXAJTR9MDL9	10P CONNECTOR ASSY/R9-B9
	M35	TXAJTW10MDL9	10P CONNECTOR ASSY/R7-W10
	M36	TXAJTW9MDL9A	3P CONNECTOR ASSY/T30-W9
	K78	TXFJT01A06A	1P CONNECTOR ASSY(EARTH)
⚠	F001	XBA2C31TB0	FUSE(3.15A)
	K65	TSN63115-2	MAGNET
	M40	TPC1346401	BOTTOM CARTON
	M41	TPC1346501	OUTER CARTON
	M42	TPD131148	FILLER(UPPER)
	M43	TPD132147	FILLER(BOTTOM)
	M44	TPD139359	FILLER(UPPER)
	M45	TPD139360	FILLER(BOTTOM)
	M46	TPD169487	CARTON JOINT
	M47	TPE104330	MASK SHEET
	M49	TPE114177	PROTECT COVER
	M48	TPE24093	SET COVER
	M50	XZB11X22C05	ACCESSORIES COVER
	M51	XZBT6506	BAG
	M52	TQB510161	INSTRUCTION BOOK
	M53	TQD1712009-1	PASS CARD
	M54	TQD62996	SERVICE CENTER LIST
	M55	TQF34680	TILT LEG LABEL
	K68	TQF37204	SERIAL NO. LABEL
	M56	TQF57221	POWER CORD LABEL <FT-2900G>
	M57	TQF81735	EARTH MARK LABEL

I.C

	Ref.No.	Part No.	Description
	IC001	TC4052BP	INTEGRATED CIRCUIT
	IC002	MN15151TKD	INTEGRATED CIRCUIT
	IC003	TVRA5018	INTEGRATED CIRCUIT
	IC004	SN74LS09N	INTEGRATED CIRCUIT
	IC005	TC4052BP	INTEGRATED CIRCUIT
	IC006	SN74LS126AN	INTEGRATED CIRCUIT
	IC007	TVSM5218L	INTEGRATED CIRCUIT
	IC401	AN5521	INTEGRATED CIRCUIT
⚠	IC501	TDA2579A	INTEGRATED CIRCUIT
⚠	IC551	TNH11303	CIRCUIT BOARD(HIC)
	IC602	MC14066BCP	INTEGRATED CIRCUIT
	IC603	TDA4555	INTEGRATED CIRCUIT
	IC605	AN6912	INTEGRATED CIRCUIT
	IC606	AN5613	INTEGRATED CIRCUIT
	IC607	AN5862K	INTEGRATED CIRCUIT
	IC751	AN78M24	INTEGRATED CIRCUIT
⚠	IC801	STRS6309	INTEGRATED CIRCUIT
	IC802	UPC2412HF	INTEGRATED CIRCUIT
⚠	IC804	S1854LBM-6	INTEGRATED CIRCUIT
⚠	IC806	TLP634GR	INTEGRATED CIRCUIT
	IC1301	TA7347P	INTEGRATED CIRCUIT
	IC1302	TVSTC4066BP	INTEGRATED CIRCUIT
	IC1601	AN5342K	INTEGRATED CIRCUIT
	IC1602	AN78L09	INTEGRATED CIRCUIT
	IC1603	AN608P	INTEGRATED CIRCUIT
	IC3301	CXA1024S	INTEGRATED CIRCUIT
	IC3304	AN78M09	INTEGRATED CIRCUIT
	IC5001	AN5835	INTEGRATED CIRCUIT
	IC5002	AN78L12	INTEGRATED CIRCUIT
	IC5003	TA8211AH	INTEGRATED CIRCUIT
	IC5201	TC4052BP	INTEGRATED CIRCUIT
	IC5301	TVSTC4066BP	INTEGRATED CIRCUIT
	IC5302	SN74LS07N	INTEGRATED CIRCUIT
	IC5303	AN608P	INTEGRATED CIRCUIT
	IC5501	TVSUPC4558C	INTEGRATED CIRCUIT
	IC5601	CX20125	INTEGRATED CIRCUIT
	IC5605	AN608P	INTEGRATED CIRCUIT
	IC5606	AN5860	INTEGRATED CIRCUIT
	IC5607	TA7347P	INTEGRATED CIRCUIT
	IC5701	TVSUPC4558C	INTEGRATED CIRCUIT
	IC5702	AN614	INTEGRATED CIRCUIT

TRANSISTORS

Ref.No.	Part No.	Description
Q001	2SC3311AQ	TRANSISTOR
Q002	2SC3311AQ	TRANSISTOR
Q007	2SC3311AQ	TRANSISTOR
Q008	2SA1309AQ	TRANSISTOR
Q009	2SC3311AQ	TRANSISTOR
Q010	2SC3311AQ	TRANSISTOR
Q011	2SA1309AQ	TRANSISTOR
Q012	2SA564AR	TRANSISTOR
Q013	2SC3311AQ	TRANSISTOR
Q014	2SA564AR	TRANSISTOR
Q016	2SA564AR	TRANSISTOR
Q017	2SC1318AR	TRANSISTOR
Q018	2SC3311AQ	TRANSISTOR
Q019	2SC3311AQ	TRANSISTOR
Q020	2SC3311AQ	TRANSISTOR
Q021	2SC3311AQ	TRANSISTOR
Q022	UN4211	TRANSISTOR
Q023	UN421D	TRANSISTOR
Q024	2SC3311AR	TRANSISTOR
Q025	2SC3311AR	TRANSISTOR
Q301	2SB940PLB	TRANSISTOR
Q302	2SD1264PLB	TRANSISTOR
Q303	2SD1423AQ	TRANSISTOR
Q304	2SB1030AQ	TRANSISTOR
Q305	2SC1685Q	TRANSISTOR
Q351	2SC1685Q	TRANSISTOR
Q352	2SC1685Q	TRANSISTOR
Q353	2SC1685Q	TRANSISTOR
Q354	2SC3942RL	TRANSISTOR
Q355	2SC3942RL	TRANSISTOR
Q356	2SC3942RL	TRANSISTOR
Q357	2SC3942RL	TRANSISTOR
Q358	2SC3942RL	TRANSISTOR
Q359	2SC3942RL	TRANSISTOR
Q360	2SA1605RL	TRANSISTOR
Q361	2SA1605RL	TRANSISTOR
Q362	2SA1605RL	TRANSISTOR
Q363	2SA1605RL	TRANSISTOR
Q364	2SA1605RL	TRANSISTOR
Q365	2SA1605RL	TRANSISTOR
Q401	2SC3311AQ	TRANSISTOR
Q402	UN4211	TRANSISTOR
Q451	2SC3311AQ	TRANSISTOR
Q453	2SC1383R	TRANSISTOR
Q454	2SA683R	TRANSISTOR
Q502	2SA1309AQ	TRANSISTOR
Q503	2SC3311AQ	TRANSISTOR
Q504	2SD1264PLB	TRANSISTOR
Q505	2SC2653HLB	TRANSISTOR
Q552	2SD1732	TRANSISTOR
Q601	2SC3311AQ	TRANSISTOR
Q602	2SC3311AQ	TRANSISTOR
Q603	2SC3311AQ	TRANSISTOR
Q604	2SC3311AQ	TRANSISTOR
Q605	2SC3311AQ	TRANSISTOR
Q606	2SC3311AQ	TRANSISTOR
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Q615	2SC3311AQ	TRANSISTOR
Q620	2SC3311AQ	TRANSISTOR
Q621	UN4212	TRANSISTOR
Q622	UN4212	TRANSISTOR
Q625	2SA1309AQ	TRANSISTOR
Q754	2SA1309AQ	TRANSISTOR
Q755	2SD1273PLB	TRANSISTOR
⚠ Q801	2SA564AR	TRANSISTOR
Q806	2SA879	TRANSISTOR
Q807	2SC3311AQ	TRANSISTOR
Q851	2SC3311AQ	TRANSISTOR
Q852	2SC3311AQ	TRANSISTOR
Q1301	2SC3311AQ	TRANSISTOR
Q1302	2SC3311AQ	TRANSISTOR
Q1303	2SC3311AQ	TRANSISTOR
Q1304	2SC3311AQ	TRANSISTOR
Q1305	2SC3311AQ	TRANSISTOR
Q1306	2SC3311AQ	TRANSISTOR
Q1308	2SC3311AQ	TRANSISTOR
Q1314	2SC3311AQ	TRANSISTOR
Q1318	2SC3311AQ	TRANSISTOR
Q1319	2SC3311AQ	TRANSISTOR
Q1320	2SC3311AQ	TRANSISTOR
Q1321	2SA1309AQ	TRANSISTOR
Q1322	2SA1309AQ	TRANSISTOR
Q1324	2SA1309AQ	TRANSISTOR
Q1326	2SC3311AQ	TRANSISTOR
Q1327	UN4212	TRANSISTOR
Q1601	2SC3311AQ	TRANSISTOR
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Q1606	2SC3311AQ	TRANSISTOR
Q1607	UN4212	TRANSISTOR
Q1608	2SC3311AQ	TRANSISTOR
Q1609	2SC3311AQ	TRANSISTOR
Q1610	2SC3311AQ	TRANSISTOR
Q3301	2SC3311AQ	TRANSISTOR
Q3302	2SC3311AQ	TRANSISTOR
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Q3305	2SC3311AQ	TRANSISTOR
Q3311	UN4212	TRANSISTOR
Q3312	UN4214	TRANSISTOR
Q3313	UN4212	TRANSISTOR
Q3315	2SC3311AQ	TRANSISTOR
Q3316	2SA1309AQ	TRANSISTOR
Q4101	2SC3311AQ	TRANSISTOR
Q4102	2SC3311AQ	TRANSISTOR
Q4301	2SA1309AQ	TRANSISTOR
Q4302	2SC3311AQ	TRANSISTOR
Q4303	2SC3311AQ	TRANSISTOR
Q4304	2SK614	TRANSISTOR
Q4305	2SK614	TRANSISTOR
Q4306	2SA1309AQ	TRANSISTOR
Q4307	2SC3311AQ	TRANSISTOR
Q5002	2SC3311AQ	TRANSISTOR
Q5003	2SC3311AQ	TRANSISTOR
Q5004	2SC3311AQ	TRANSISTOR
Q5005	2SC2188	TRANSISTOR
Q5006	2SA1309AQ	TRANSISTOR
Q5205	2SC3311AQ	TRANSISTOR
Q5207	2SC3311AQ	TRANSISTOR
Q5301	2SC3311AQ	TRANSISTOR
Q5302	2SC3311AQ	TRANSISTOR
Q5303	2SC3311AQ	TRANSISTOR
Q5304	2SC3311AQ	TRANSISTOR
Q5305	2SC3311AQ	TRANSISTOR
Q5306	2SC3311AQ	TRANSISTOR
Q5307	2SC3311AQ	TRANSISTOR
Q5401	2SC3311AQ	TRANSISTOR
Q5402	2SC3311AR	TRANSISTOR
Q5403	2SC3311AQ	TRANSISTOR
Q5404	2SA1309AQ	TRANSISTOR
Q5405	2SC3311AQ	TRANSISTOR
Q5406	2SC3311AQ	TRANSISTOR
Q5501	2SA1309AQ	TRANSISTOR
Q5601	2SC3311AQ	TRANSISTOR
Q5608	2SC3311AQ	TRANSISTOR
Q5701	2SC3311AQ	TRANSISTOR
Q5702	2SC3311AQ	TRANSISTOR
Q5703	2SA1309AQ	TRANSISTOR

DIODES

Ref.No.	Part No.	Description
D001	MA165	DIODE
D002	MA165	DIODE
D005	MA4051	DIODE
D006	MA4051	DIODE
D007	MA165	DIODE
D010	MA4051M	DIODE
D011	MA29WA	DIODE
D014	MA29A	DIODE

Ref.No.	Part No.	Description
D017	MA4051M	DIODE
D018	MA4051M	DIODE
D019	MA4036M	DIODE
D021	MA165	DIODE
D022	MA165	DIODE
D024	MA4150H	DIODE
D025	MA4150H	DIODE
D026	MA4062M	DIODE
D027	MA165	DIODE
D028	MA165	DIODE
D029	MA165	DIODE
D030	MA165	DIODE
D031	MA4075H	DIODE
D032	MA165	DIODE
D033	MA165	DIODE
D034	MA165	DIODE
D035	MA165	DIODE
D036	MA165	DIODE
D038	MA4043M	DIODE
D051	MA4051L	DIODE
D052	MA4130L	DIODE
D053	MA4130L	DIODE
D151	LN249WALHUJF	DIODE(LED)
D152	MA4051L	DIODE
D301	MA29WB	DIODE
D351	MA167	DIODE
D352	MA167	DIODE
D353	MA167	DIODE
D354	MA167	DIODE
D355	MA167	DIODE
D356	MA167	DIODE
D357	MA165	DIODE
D358	MA165	DIODE
D359	MA165	DIODE
D360	EU01N	DIODE
D361	EU01N	DIODE
D362	EU01N	DIODE
D369	MA165	DIODE
D370	MA165	DIODE
D371	MA165	DIODE
D401	MA29A	DIODE
D402	MA4075H	DIODE
D403	MA700	DIODE
D451	ERA15O2	DIODE
D452	MA165	DIODE
D453	MA165	DIODE
D454	MA4300H	DIODE
D455	MA165	DIODE
D456	MA165	DIODE
D457	MA1043M	DIODE
D460	MA4120M	DIODE
D461	MA4033M	DIODE
D502	MA165	DIODE
D503	MA4051M	DIODE
D505	MA165	DIODE
D506	MA4130L	DIODE
D510	MA4130L	DIODE
⚠ D551	TVSEU2	DIODE
⚠ D552	ERD07-15	DIODE
⚠ D553	TVSRU2AM	DIODE
⚠ D554	TVSEU2	DIODE
D556	MA165	DIODE
⚠ D558	ERA22-04	DIODE
D559	MA4360L	DIODE
D562	MA167	DIODE
D565	MA167	DIODE
D566	MA4130H	DIODE
D570	MA4068H	DIODE
D607	MA4047M	DIODE
D608	DAN401	DIODE
D609	MA165	DIODE
D610	MA165	DIODE
D611	MA175WK	DIODE
D617	MA4130H	DIODE
D753	MA29TB	DIODE
D755	MA4300M	DIODE
⚠ D801	RBV608	DIODE
⚠ D806	MA723	DIODE
⚠ D808	AU02Z	DIODE
⚠ D811	ERD31-04	DIODE
⚠ D812	RL4Z	DIODE
⚠ D813	ERD31-04	DIODE
⚠ D815	TVSAG01	DIODE
⚠ D816	TVSSR2KN	DIODE
⚠ D817	TVSEU2	DIODE
⚠ D824	ERZC10DK621	VARISTOR
D828	AS01	DIODE
D830	MA165	DIODE
D832	MA165	DIODE
D843	MA433OM	DIODE
⚠ D844	TVSRU2AM	DIODE
D845	MA182	DIODE
⚠ D849	TRPW5BON140Q	POSISTOR
D850	TRPW5BON140Q	POSISTOR
⚠ D851	ERA1501	DIODE
⚠ D852	ERA1501	DIODE
⚠ D853	ERA1501	DIODE
⚠ D854	ERA1501	DIODE
D855	MA165	DIODE
D858	MA414OM	DIODE
D1304	MA165	DIODE
D1305	MA165	DIODE
D1314	MA165	DIODE
D1315	MA165	DIODE
D1316	MA700	DIODE
D1317	MA410OM	DIODE
D1320	MA165	DIODE
D1321	MA165	DIODE
D1322	MA165	DIODE
D1323	MA165	DIODE
D1324	MA700	DIODE
D1326	MA165	DIODE
D1601	MA165	DIODE
D1602	MA165	DIODE
D1603	MA165	DIODE
D1604	MA165	DIODE
D1605	MA165	DIODE
D3301	MA4091L	DIODE
D3303	MA4091L	DIODE
D3304	MA4091L	DIODE
D3305	MA165	DIODE
D3306	MA165	DIODE
D3308	MA4091H	DIODE
D3309	MA4091H	DIODE
D3310	MA4091H	DIODE

Ref.No.	Part No.	Description
D3311	MA165	DIODE
D3312	MA165	DIODE
D3313	MA165	DIODE
D3314	MA165	DIODE
D3315	MA165	DIODE
D3316	MA165	DIODE
D3317	MA165	DIODE
D3318	MA165	DIODE
D3319	MA4091L	DIODE
D3323	MA165	DIODE
D3324	MA4075L	DIODE
D3325	MA4062M	DIODE
D3326	MA4068L	DIODE
D3327	MA165	DIODE
D3330	MA4091L	DIODE
D3331	MA4091L	DIODE
D3334	MA700	DIODE
D3335	MA165	DIODE
D3338	MA165	DIODE
D3339	MA165	DIODE
D3340	MA4030M	DIODE
D3341	MA4056M	DIODE
D3342	MA165	DIODE
D3343	MA165	DIODE
D3345	MA165	DIODE
D3346	MA165	DIODE
D3347	MA165	DIODE
D3348	MA165	DIODE
D3350	MA165	DIODE
D3351	MA165	DIODE
D3352	MA165	DIODE
D3353	MA4082H	DIODE
D3360	AM01Z	DIODE
D3361	AM01Z	DIODE
D3362	MA4091L	DIODE
D3363	MA4091L	DIODE
D3369	MA4062M	DIODE
D3370	MA4062M	DIODE
D3371	MA4091H	DIODE
D4101	MA700	DIODE
D4102	MA4062M	DIODE
D4103	MA29TA	DIODE
D4301	OA90AG	DIODE
D4302	MA165	DIODE
D4303	MA165	DIODE
D4304	MA4150M	DIODE
D4305	LN322GPHJF1	DIODE(LED)
D4306	MA4150M	DIODE
D4307	MA4056H	DIODE
D4308	MA4130H	DIODE
D4309	MA4056H	DIODE
D4310	MA4056H	DIODE
D4311	MA700	DIODE
D4312	MA700	DIODE
D4313	MA700	DIODE
D5001	MA4150M	DIODE
D5002	MA165	DIODE
D5003	MA165	DIODE
D5301	MA165	DIODE
D5302	MA165	DIODE
D5303	MA165	DIODE
D5304	MA165	DIODE
D5307	MA165	DIODE
D5308	MA165	DIODE
D5309	MA4051L	DIODE
D5311	MA4051L	DIODE
D5312	MA4051L	DIODE
D5313	MA4051L	DIODE
D5314	MA150	DIODE
D5316	MA165	DIODE
D5317	MA165	DIODE
D5318	MA165	DIODE
D5319	MA165	DIODE
D5320	MA165	DIODE
D5321	MA165	DIODE
D5322	MA1130H	DIODE
D5323	MA1130H	DIODE
D5402	MA700	DIODE
D5403	OA90AM	DIODE
D5404	MA4030M	DIODE
D5405	MA700	DIODE
D5501	MA29WA	DIODE
D5605	MA165	DIODE
D5606	MA165	DIODE
D5701	MA4030M	DIODE
D5702	MA4091M	DIODE
D5703	MA165	DIODE
D5705	MA165	DIODE
D5706	MA4130H	DIODE
D5707	MA4130H	DIODE
D5708	MA4300M	DIODE

COIL & TRANSFORMERS

Ref.No.	Part No.	Description
L002	ELEXH2R2KA	PEAKING COIL
L003	ELEXH2R2KA	PEAKING COIL
L004	ELEXH2R2KA	PEAKING COIL
L005	ELEXH2R2KA	PEAKING COIL
L006	ELEXH2R2KA	PEAKING COIL
L007	ELEXH2R2KA	PEAKING COIL
L008	ELEXH2R2KA	PEAKING COIL
L009	ELEXH2R2KA	PEAKING COIL
L010	ELEXH2R2KA	PEAKING COIL
L011	ELEXH2R2KA	PEAKING COIL
L012	ELEXH2R2KA	PEAKING COIL
L014	ELEXH2R2KA	PEAKING COIL
L015	ELEXH2R2KA	PEAKING COIL
L019	ELEXH2R2KA	PEAKING COIL
L020	ELEXH2R2KA	PEAKING COIL
L021	ELEXH2R2KA	PEAKING COIL
L022	ELEXH2R2KA	PEAKING COIL
L023	ELEXH2R2KA	PEAKING COIL
L030	EXCELDR35C	LC COMBINATION
L031	TSK1002	FERRITE CORE
L032	ELEXH2R2KA	PEAKING COIL
L033	ELEXH2R2KA	PEAKING COIL
L034	ELESE102KA	PEAKING COIL
L035	ELESE102KA	PEAKING COIL
L301	TSK1002	FERRITE CORE
L302	TSK1002	FERRITE CORE
L303	TSK1002	FERRITE CORE
L304	TSK1011-1	FERRITE CORE
L351	TLT470K991K	PEAKING COIL
L352	TLT470K991K	PEAKING COIL

	Ref.No.	Part No.	Description
	L353	TLT470K991K	PEAKING COIL
	L354	TLT390K991K	PEAKING COIL
	L355	TLT390K991K	PEAKING COIL
	L356	TLT390K991K	PEAKING COIL
	L402	ELC08D058	CHOKE COIL
	L501	TSC925-4	FERRITE CORE
	L551	TLH15907	COIL
⚠	L552	ELH5K704	COIL
⚠	L553	ELC18B029	CHOKE COIL
	L554	TSK1002	FERRITE CORE
	L555	TSK1002-1	FERRITE CORE
⚠	L557	TSC925-4	FERRITE CORE
⚠	L560	TLP408	CHOKE COIL
	L601	TLK61008-1	DEGAUSS COIL
	L602	TSC925-4	FERRITE CORE
	L603	TLT390K991K	PEAKING COIL
	L604	TLT056K991K	PEAKING COIL
	L605	TLT150K991K	PEAKING COIL
	L606	TLT270K991K	PEAKING COIL
	L608	EIK7ES007B	VIF COIL
	L611	TLT056K991K	PEAKING COIL
	L615	EIK7EG012B	VIF COIL
	L616	TLK158066	DEGAUSS COIL
	L617	EIK7EG013B	VIF COIL
	L618	EIK7EG013B	VIF COIL
	L619	TLT100K991K	PEAKING COIL
⚠	L801	ELF18D850Z	LINE FILTER
⚠	L802	ELF18D850Z	LINE FILTER
⚠	L805	EXCELSA35V	LC COMBINATION
⚠	L807	TSK1002	FERRITE CORE
⚠	L808	TSK1002	FERRITE CORE
⚠	L810	TSK1002	FERRITE CORE
	L812	TLP1552 3E	TRANS.
⚠	L815	TSK1002	FERRITE CORE
	L819	TLP1552 3E	TRANS.
⚠	L820	TSC928-4	FERRITE CORE
⚠	L821	TSC928-4	FERRITE CORE
	L1301	ELT10Z397	COIL
	L1308	TLT560K991K	PEAKING COIL
	L1309	TLT150K991K	PEAKING COIL
	L1310	ELT10Z397	COIL
	L1601	TLT680K991K	PEAKING COIL
	L1603	TLT270K991K	PEAKING COIL
	L1604	TLT270K991K	PEAKING COIL
	L1605	TLT820K991K	PEAKING COIL
	L1606	TLT100K991K	PEAKING COIL
	L1608	TLT270K991K	PEAKING COIL
	L1609	TLT820K991K	PEAKING COIL
	L1610	TLT270K991K	PEAKING COIL
	L4101	TLQ181K186	PEAKING COIL
⚠	L5599	ELH22Y633	COIL
	L5601	TLT542K991K	PEAKING COIL
	L5701	ELH11Y751	COIL
	LC601	EFDMA645B85F	DELAY LINE
	LC1301	TLK156060E	DEGAUSS COIL
	LC1303	TLK156059E	DEGAUSS COIL
	LC1304	TLK156060E	DEGAUSS COIL
	LC1305	TLK156059E	DEGAUSS COIL
	T25	TJS118650	8P CONNECTOR
	T28	TJS118620	5P CONNECTOR
	T29	TJS118590	2P CONNECTOR
	T30	TJS118600	3P CONNECTOR
	T501	ETH19Y70AY	TRANS.
	T551	TLF15559B	FLYBACK TRANS.

	Ref.No.	Part No.	Description
⚠	T801	ETS42K546A	TRANS.
⚠	T851	ETP28Z308AF	TRANS.
	T5701	ETR26L32A	TRANS.

CONTROL

Ref.No.	Part No.	Description		
R402	EVND1AA00B54	CONTROL	B	50K OHM
R468	EVNDXAA00B14	CONTROL	B	10K OHM
R510	EVND1AA00B14	CONTROL	B	10K OHM
R604	EVND4AA00B52	CONTROL	B	500 OHM
R663	EVND4AA00B13	CONTROL	B	1K OHM
R670	EVND1AA00B54	CONTROL	B	50K OHM
R697	EVND4AA00B33	CONTROL	B	3K OHM
R699	EVND1AA00B53	CONTROL	B	5K OHM
R1316	EVND4AA00B13	CONTROL	B	1K OHM
R3317	EVTF4CA00B34	CONTROL	B	30K OHM
R3339	EVTF4CA00B13	CONTROL	B	1K OHM
R3349	EVTF4CA00B13	CONTROL	B	1K OHM
R3351	EVTF4CA00B25	CONTROL	B	200K OHM
R3366	EVTF4CA00B25	CONTROL	B	200K OHM
R3393	EVTF4CA00B14	CONTROL	B	10K OHM
R5504	EVND1AA00B13	CONTROL	B	1K OHM
R5517	EVND1AA00B33	CONTROL	B	3K OHM
R5719	EVND1AA00B52	CONTROL	B	500 OHM

CAPACITORS

Ref.No.	Part No.		Description		
C001	ECEA1CU471	E	470UF		16V
C002	ECEA1CU220	E	22UF		16V
C003	ECEA1HU2R2	E	2.2UF		50V
C004	ECEA1HU2R2	E	2.2UF		50V
C005	ECEA1HU2R2	E	2.2UF		50V
C006	ECEA1HU2R2	E	2.2UF		50V
C007	ECEA1HU2R2	E	2.2UF		50V
C008	ECEA1HU2R2	E	2.2UF		50V
C009	EXFP5101MW	CR	COMBINATION		
C010	EXFP4101MBW	CR	COMBINATION		
C011	ECCF1H101J	C	100PF	J	50V
C012	ECCF1H101J	C	100PF	J	50V
C015	EXFP6101MF	CR	COMBINATION		
C016	ECCF1H101J	C	100PF	J	50V
C017	ECCF1H101J	C	100PF	J	50V
C018	ECCF1H101J	C	100PF	J	50V
C019	ECCF1H101J	C	100PF	J	50V
C020	ECCF1H820J	C	82PF	J	50V
C021	ECCF1H150JC	C	15PF	J	50V
C022	ECCF1H150JC	C	15PF	J	50V
C023	ECCF1H150JC	C	15PF	J	50V
C024	ECEA1CU330	E	33UF		16V
C025	ECKF1H103ZF	C	0.01UF	Z	50V
C026	ECEA1CGE471	E	470UF		16V
C027	ECEA1CGE100	E	10UF		16V
C028	ECEA1CU100	E	10UF		16V
C029	ECEA1HGE2R2	E	2.2UF		50V
C030	ECEA1CU100	E	10UF		16V
C032	ECQV1H104JZ	P	0.1UF	J	50V
C033	ECQV1H104JZ	P	0.1UF	J	50V
C034	ECKF1H103ZF	C	0.01UF	Z	50V
C035	ECKF1H103ZF	C	0.01UF	Z	50V
C036	ECKF1H103ZF	C	0.01UF	Z	50V
C037	ECEA1CU101	E	100UF		16V
C038	ECQB1H103JF	P	0.01UF	J	50V
C039	ECQB1H103JF	P	0.01UF	J	50V
C040	ECQB1H223JF	P	0.022UF	J	50V

	Ref.No.	Part No.	Description		
	C041	ECEA1CU100	E	10UF	16V
	C151	ECEA1CKA470	E	47UF	16V
	C301	ECEA2CU100	E	10UF	160V
	C302	ECEA0JU101	E	100UF	6.3V
	C303	ECEA2AU100	E	10UF	100V
	C304	ECKD2H472KB5	C	4700PF K	500V
	C305	ECCD2H151J5	C	150PF J	500V
	C306	ECKD2H472KB5	C	4700PF K	500V
	C307	ECCF1H151J	C	150PF J	50V
	C308	ECEA0JU101	E	100UF	6.3V
	C309	ECEA1AU221	E	220UF	10V
	C310	ECQV1H823JZ	P	0.082UF J	50V
	C311	ECKF1H471KB	C	470PF K	50V
	C312	ECKF1H103ZF	C	0.01UF Z	50V
	C313	ECEA1CU100	E	10UF	16V
	C351	ECCF1H821J	C	820PF J	50V
	C352	ECQB1H122JF	P	1200PF J	50V
	C353	ECCF1H821J	C	820PF J	50V
	C354	ECKF1H103ZF	C	0.01UF Z	50V
	C355	ECKF1H103ZF	C	0.01UF Z	50V
	C356	ECKF1H103ZF	C	0.01UF Z	50V
	C357	ECCF1H101J	C	100PF J	50V
	C358	ECCF1H101J	C	100PF J	50V
	C359	ECCF1H271J	C	270PF J	50V
⚠	C360	ECEA2EG2R2S	E	2.2UF	250V
	C361	ECEA1CGE100	E	10UF	16V
	C363	ECKD3D102KBN	C	1000PF K	2KV
	C365	ECKD2H103PU	C	0.01UF P	500V
	C401	ECQV1H474JZ	P	0.47UF J	50V
	C451	ECQV1H474JZ	P	0.47UF J	50V
	C452	ECEA1HFS4R7	E	4.7UF	50V
	C453	ECQB1H473JF	P	0.047UF J	50V
	C454	ECEA1HFS010	E	1UF	50V
	C455	ECQV1H184JZ	P	0.18UF J	50V
	C456	ECEA1EU332	E	3300UF	25V
	C457	ECQV1H104JZ	P	0.1UF J	50V
	C458	ECKD2H182KB5	C	1800PF K	500V
	C459	ECQB1H473JF	P	0.047UF J	50V
	C460	ECQV1H104JZ	P	0.1UF J	50V
⚠	C461	ECEA1VGE471	E	470UF	35V
⚠	C462	ECEA1VGE102	E	1000UF	35V
	C463	ECEA1CN100S	E	10UF	16V
	C464	ECEA1VU470	E	47UF	35V
	C501	ECEA1HU010	E	1UF	50V
	C503	ECQV1H334JZ	P	0.33UF J	50V
	C504	ECQV1H334JZ	P	0.33UF J	50V
	C505	ECQB1H103JF	P	0.01UF J	50V
	C506	ECQV1H104JZ	P	0.1UF J	50V
	C507	ECEA1CU220	E	22UF	16V
	C508	ECQV1H154JZ	P	0.15UF J	50V
	C509	ECEA1CU100	E	10UF	16V
	C510	ECEA1VU4R7	E	4.7UF	35V
	C511	ECQV1H563JZ	P	0.056UF J	50V
	C512	ECQP1H272JZ	PP	2700PF J	50V
⚠	C515	ECEA1VU470	E	47UF	35V
	C516	ECEA1CU100	E	10UF	16V
	C517	ECEA1EU222	E	2200UF	25V
	C520	ECEA1CU470	E	47UF	16V
	C521	ECEA1CN330S	E	33UF	16V
	C550	ECQB1H102JF	P	1000PF J	50V
	C551	ECKD3A152KBP	C	1500PF K	1KV
⚠	C553	TAC63222A2KV	C	2200PF	2KV
⚠	C554	ECQV1H683JZ	P	0.068UF J	50V

	Ref.No.	Part No.	Description		
⚠	C558	ECWH12H153JS	PP	0.015UF J	1.2KV
⚠	C559	ECKD3D182JBN	C	1800PF J	2KV
⚠	C560	ECQF4153JZ	PP	0.015UF J	400V
⚠	C561	ECQF4183JZ	PP	0.018UF J	400V
⚠	C562	ECKD3D222JBN	C	2200PF J	2KV
	C563	ECEA1VGE221	E	220UF	35V
	C564	ECEA1CGE470	E	47UF	16V
⚠	C569	ECEA2CN3R3S	E	3.3UF	160V
	C571	ECKD2H102KB5	C	1000PF K	500V
	C572	ECEA2EGE100	E	10UF	250V
	C573	ECKD2H103ZU	C	0.01UF Z	500V
⚠	C574	ECEA2EGE330	E	33UF	250V
	C600	ECEA1CU221	E	220UF	16V
	C602	ECQV1H473JZ	P	0.047UF J	50V
	C603	ECQV1H473JZ	P	0.047UF J	50V
	C604	ECQV1H473JZ	P	0.047UF J	50V
	C607	ECQB1H103JF	P	0.01UF J	50V
	C610	ECCF1H121JC	C	120PF J	50V
	C611	ECQB1H103JF	P	0.01UF J	50V
	C613	ECKF1H103ZF	C	0.01UF Z	50V
	C614	ECKF1H103ZF	C	0.01UF Z	50V
	C615	ECCF1H330JC	C	33PF J	50V
	C616	ECCF1H470JC	C	47PF J	50V
	C617	ECQB1H103JF	P	0.01UF J	50V
	C618	ECCF1H101JC	C	100PF J	50V
	C619	ECEA1CKN330	E	33UF	16V
	C620	ECEA1CKN330	E	33UF	16V
	C621	ECCF1H300JC	C	30PF J	50V
	C622	ECCF1H221JC	C	220PF J	50V
	C623	ECQB1H103JF	P	0.01UF J	50V
	C626	ECEA1CN330S	E	33UF	16V
	C627	ECEA1CN330S	E	33UF	16V
	C628	ECQB1H103JF	P	0.01UF J	50V
	C632	ECKF1H102KB	C	1000PF K	50V
	C633	ECQB1H223JF	P	0.022UF J	50V
	C634	TCRHA030E11	TRIMMER CAPACITOR		
	C636	ECQV1H334JZ	P	0.33UF J	50V
	C637	TCRHA030E11	TRIMMER CAPACITOR		
	C638	ECQV1H473JZ	P	0.047UF J	50V
	C639	ECEA1HN010S	E	1UF	50V
	C640	ECCF1H561J	C	560PF J	50V
	C642	ECQB1H223JF	P	0.022UF J	50V
	C643	ECQB1H223JF	P	0.022UF J	50V
	C644	ECKF1H103ZF	C	0.01UF Z	50V
	C645	ECKF1H103ZF	C	0.01UF Z	50V
	C646	ECCF1H220J	C	22PF J	50V
	C647	ECCF1H680J	C	68PF J	50V
	C648	ECCF1H221J	C	220PF J	50V
	C649	ECCF1H220J	C	22PF J	50V
	C650	ECCF1H680J	C	68PF J	50V
	C651	ECCF1H221J	C	220PF J	50V
	C652	ECCF1H121JC	C	120PF J	50V
	C653	ECCF1H121JC	C	120PF J	50V
	C656	EXFP4103ZW	CR	COMBINATION	
	C657	ECEA1EU4R7	E	4.7UF	25V
	C666	ECEA1CU470	E	47UF	16V
	C667	ECKF1H103ZF	C	0.01UF Z	50V
	C668	ECCF1H150JC	C	15PF J	50V
	C669	ECEA1ASN330	E	33UF	10V
	C670	ECEA1ASN330	E	33UF	10V
	C671	ECEA1ASN330	E	33UF	10V
	C673	ECEA1CN100S	E	10UF	16V

Ref.No.	Part No.	Description			
C675	ECCF1H121JC	C	120PF	J	50V
C679	ECEA1HN010S	E	1UF		50V
C680	ECEA1HN010S	E	1UF		50V
C681	ECEA1HN010S	E	1UF		50V
C682	ECEA1HU010	E	1UF		50V
C687	ECEA1CU100	E	10UF		16V
C692	ECEA1CU330	E	33UF		16V
C693	ECEA1CU102	E	1000UF		16V
C695	ECEA1CU102	E	1000UF		16V
C698	ECQB1H103JF	P	0.01UF	J	50V
C699	ECQB1H223JF	P	0.022UF	J	50V
C751	ECQB1H272JF	P	2700PF	J	50V
C757	ECEA1HW4R7S	E	4.7UF		50V
⚠ C801	ECKDWS101MBJ	C	100PF	M	
⚠ C802	ECKD2H472PU	C	4700PF	P	500V
⚠ C804	ECKDAE472ZV	C	4700PF	Z	250V
⚠ C805	ECKDAE472ZV	C	4700PF	Z	250V
⚠ C806	ECES2GU221N	E	220UF		400V
⚠ C807	ECEA1EGE220	E	22UF		25V
⚠ C809	ECKD3D471KBN	C	470PF	K	2KV
C810	ECQU2A334MN	PP	0.33UF	M	250V
⚠ C811	ECQB1H272JF	P	2700PF	J	50V
⚠ C814	ECWH12H222JS	PP	2200PF	J	1.2KV
⚠ C815	ECQV1H333JZ	P	0.033UF	J	50V
⚠ C816	ECEA1HGE101	E	100UF		50V
C817	ECKD2H681KB5	C	680PF	K	500V
⚠ C818	ECES2CG561MN	E	560UF		160V
C819	ECKD2H471KB5	C	470PF	K	500V
C820	ECKD2H391KB5	C	390PF	K	500V
⚠ C821	ECEA1VGE102Q	E	1000UF		35V
⚠ C822	ECKD2H471KB5	C	470PF	K	500V
C824	ECKD2H391KB5	C	390PF	K	500V
⚠ C825	ECEA1VGE331	E	330UF		35V
⚠ C826	ECEA1EF471	E	470UF		25V
⚠ C829	ECKDWS152MEJ	C	1500PF	M	
C830	ECEA1CGE331	E	330UF		16V
⚠ C835	ECKD3A471KBP	C	470PF	K	1KV
⚠ C844	ECEA1VGE471	E	470UF		35V
C847	ECKD2H151KB5	C	150PF	K	500V
C848	ECQB1H223JF	P	0.022UF	J	50V
⚠ C851	ECEA1EU102	E	1000UF		25V
⚠ C852	ECKD3A681KBP	C	680PF	K	1KV
C860	ECEA0JU101	E	100UF		6.3V
C861	ECEA1VU4R7	E	4.7UF		35V
⚠ C862	ECEA160V33Z	E	33UF		160V
⚠ C873	ECQU2A823MN	PP	0.082UF	M	250V
⚠ C894	ECQU2A104MN	P	0.1UF	M	250V
⚠ C898	ECKDWS102MBJ	C	1000PF	M	
⚠ C899	ECKDWS102MBJ	C	1000PF	M	
C1301	ECEA1CKN330	E	33UF		16V
C1302	ECEA1CKN330	E	33UF		16V
C1303	ECCF1H680JC	C	68PF	J	50V
C1304	ECCF1H680JC	C	68PF	J	50V
C1305	ECEA1AKN470	E	47UF		10V
C1306	ECQB1H103JF	P	0.01UF	J	50V
C1307	ECCF1H101JC	C	100PF	J	50V
C1308	ECRHA090N41	TRIMMER CAPACITOR			
C1311	ECEA1AKN470	E	47UF		10V
C1312	ECEA1CU470	E	47UF		16V
C1314	ECEA1HU010	E	1UF		50V
C1318	ECEA1CU470	E	47UF		16V
C1322	ECEA1CU220	E	22UF		16V

Ref.No.	Part No.	Description			
C1339	ECKF1H103ZF	C	0.01UF	Z	50V
C1342	ECCF1H470JC	C	47PF	J	50V
C1601	ECCF1H270J	C	27PF	J	50V
C1602	ECCF1H220JC	C	22PF	J	50V
C1603	ECKF1H103ZF	C	0.01UF	Z	50V
C1605	ECCF1H270JC	C	27PF	J	50V
C1606	ECKF1H103ZF	C	0.01UF	Z	50V
C1607	ECEA1CKA470	E	47UF		16V
C1608	ECKF1H103ZF	C	0.01UF	Z	50V
C1609	ECKF1H103ZF	C	0.01UF	Z	50V
C1610	ECKF1H103ZF	C	0.01UF	Z	50V
C1611	ECKF1H103ZF	C	0.01UF	Z	50V
C1612	ECEA1HUR22	E	0.22UF		50V
C1613	ECKF1H103ZF	C	0.01UF	Z	50V
C1614	ECKF1H103ZF	C	0.01UF	Z	50V
C1615	ECKF1H103ZF	C	0.01UF	Z	50V
C1616	ECKF1H103ZF	C	0.01UF	Z	50V
C1617	ECCF1H100FC	C	10PF	F	50V
C1618	ECCF1H100FC	C	10PF	F	50V
C1620	ECCF1H221JC	C	220PF	J	50V
C1621	ECKF1H221KB	C	220PF	K	50V
C1622	ECQV1H473JZ	P	0.047UF	J	50V
C1624	ECEA1EU4R7	E	4.7UF		25V
C1625	ECKF1H103ZF	C	0.01UF	Z	50V
C1629	ECQB1H103JF	P	0.01UF	J	50V
C1633	ECEA1CKN100	E	10UF		16V
C3301	ECQB1H103JF	P	0.01UF	J	50V
C3302	ECKF1H103ZF	C	0.01UF	Z	50V
C3304	ECEA1HKN010	E	1UF		50V
C3305	ECEA1HN010S	E	1UF		50V
C3306	ECEA1HN2R2S	E	2.2UF		50V
C3313	ECKF1H103ZF	C	0.01UF	Z	50V
C3314	ECKF1H103ZF	C	0.01UF	Z	50V
C3315	ECEA1HNR22S	E	0.22UF		50V
C3316	ECEA1HNR22S	E	0.22UF		50V
C3317	ECEA1HNR22S	E	0.22UF		50V
C3319	ECKF1H103ZF	C	0.01UF	Z	50V
C3322	ECEA1AU471	E	470UF		10V
C3323	ECEA1AU221	E	220UF		10V
C3324	EXFP4472ZW	CR COMBINATION			
C3328	ECEA1CU330	E	33UF		16V
C3332	ECEA1CKN220	E	22UF		16V
C3333	ECKF1H103ZF	C	0.01UF	Z	50V
C3334	ECKF1H103ZF	C	0.01UF	Z	50V
C3335	ECKF1H103ZF	C	0.01UF	Z	50V
C3337	ECEA1AU471	E	470UF		10V
C3338	ECKF1H103ZF	C	0.01UF	Z	50V
C3339	ECEA1CKA330	E	33UF		16V
C3340	ECEA1CKA470	E	47UF		16V
C3343	ECKF1H103ZF	C	0.01UF	Z	50V
C3344	ECKF1H103ZF	C	0.01UF	Z	50V
C3348	ECEA1HKN010	E	1UF		50V
C3349	ECQB1H123JF	P	0.012UF	J	50V
C3350	ECQB1H473JF	P	0.047UF	J	50V
C3351	ECQB1H473JF	P	0.047UF	J	50V
C3353	ECQB1H473JF	P	0.047UF	J	50V
C3354	ECCF1H101J	C	100PF	J	50V
C3360	ECEA1AU102	E	1000UF		10V
C4101	ECKF1H103ZF	C	0.01UF	Z	50V
C4102	ECKF1H103ZF	C	0.01UF	Z	50V
C4103	ECQB1H102JF	P	1000PF	J	50V
C4104	ECCF1H101J	C	100PF	J	50V

Ref.No.	Part No.	Description			
C4105	ECQB1H103JF	P	0.01UF	J	50V
C4301	ECQB1H103JF	P	0.01UF	J	50V
C4302	ECEA1CKN220	E	22UF		16V
C4303	ECQB1H103JF	P	0.01UF	J	50V
C5001	ECEA1HU3R3	E	3.3UF		50V
C5002	ECEA1HUR22	E	0.22UF		50V
C5003	ECEA1HU3R3	E	3.3UF		50V
C5004	ECEA1HUR22	E	0.22UF		50V
C5005	ECEA1CU101	E	100UF		16V
C5006	ECEA1HU010	E	1UF		50V
C5007	ECKF1H103ZF	C	0.01UF	Z	50V
C5009	ECEA1VGE221	E	220UF		35V
C5010	ECEA1HN010S	E	1UF		50V
C5011	ECEA1HN010S	E	1UF		50V
C5012	ECEA1VGE470	E	47UF		35V
C5013	ECKF1H103ZF	C	0.01UF	Z	50V
C5015	ECQB1H223JF	P	0.022UF	J	50V
C5016	ECEA1EU101	E	100UF		25V
C5017	ECEA1HU010	E	1UF		50V
C5018	ECQB1H223JF	P	0.022UF	J	50V
C5019	ECEA1HU010	E	1UF		50V
C5020	ECEA1EU101	E	100UF		25V
C5021	ECEA1EU470	E	47UF		25V
C5022	ECQV1H104JZ	P	0.1UF	J	50V
C5023	ECEA1EU102	E	1000UF		25V
C5024	ECEA1EU102	E	1000UF		25V
C5025	ECQV1H104JZ	P	0.1UF	J	50V
C5026	ECEA1EU102	E	1000UF		25V
C5029	ECEA1EU101	E	100UF		25V
C5204	ECEA1CU101	E	100UF		16V
C5205	ECEA1CU100	E	10UF		16V
C5206	ECEA1CU100	E	10UF		16V
C5207	ECEA1CU100	E	10UF		16V
C5208	ECEA1CU100	E	10UF		16V
C5209	ECEA1CU100	E	10UF		16V
C5210	ECEA1CU330	E	33UF		16V
C5301	ECEA1CN220S	E	22UF		16V
C5302	ECEA1CN220S	E	22UF		16V
C5303	ECKF1H103ZF	C	0.01UF	Z	50V
C5304	ECEA1HUR47	E	0.47UF		50V
C5305	ECEA1EN4R7S	E	4.7UF		25V
C5311	ECKF1H103ZF	C	0.01UF	Z	50V
C5313	ECEA1CU220	E	22UF		16V
C5314	ECEA1CU220	E	22UF		16V
C5317	ECKF1H103ZF	C	0.01UF	Z	50V
C5318	ECKF1H103ZF	C	0.01UF	Z	50V
C5319	ECEA1CU220	E	22UF		16V
C5321	ECCF1H471J	C	470PF	J	50V
C5322	ECCF1H471J	C	470PF	J	50V
C5323	ECCF1H471J	C	470PF	J	50V
C5324	ECCF1H471J	C	470PF	J	50V
C5402	ECEA1HN2R2S	E	2.2UF		50V
C5404	ECCF1H221J	C	220PF	J	50V
C5406	ECQB1H333JF	P	0.033UF	J	50V
C5408	ECCF1H101J	C	100PF	J	50V
C5501	ECEA1CU330	E	33UF		16V
C5502	ECKF1H103ZF	C	0.01UF	Z	50V
C5503	ECEA1HU010	E	1UF		50V
C5504	ECEA1HU010	E	1UF		50V
C5598	ECWF2H684JN	PP	0.68UF	J	200V
C5599	ECQF6154JZ	PP	0.15UF	J	600V
C5601	ECEA1CU100	E	10UF		16V

Ref.No.	Part No.	Description			
C5602	ECEA1EU4R7	E	4.7UF		25V
C5603	ECEA1CU100	E	10UF		16V
C5605	ECKF1H103ZF	C	0.01UF	Z	50V
C5633	ECEA1CN330S	E	33UF		16V
C5634	ECEA1HGE010	E	1UF		50V
C5635	ECCF1H101J	C	100PF	J	50V
C5636	ECEA1HUR22	E	0.22UF		50V
C5637	ECCF1H151J	C	150PF	J	50V
C5639	ECEA1CU471	E	470UF		16V
C5640	ECEA1CU470	E	47UF		16V
C5641	ECEA1HU010	E	1UF		50V
C5642	ECEA1CU470	E	47UF		16V
C5643	ECEA1HUR22	E	0.22UF		50V
C5644	ECQB1H152JF	P	1500PF	J	50V
C5701	ECQB1H562JF	P	5600PF	J	50V
C5702	ECEA1HN2R2S	E	2.2UF		50V
C5703	ECEA1CU220	E	22UF		16V
C5704	ECEA1HFS2R2	E	2.2UF		50V
C5705	ECQV1H274JZ	P	0.27UF	J	50V
C5706	ECEA1EN4R7S	E	4.7UF		25V
C5707	ECKF1H103ZF	C	0.01UF	Z	50V
C5708	ECEA1HGE010	E	1UF		50V
C5709	ECEA1CGE100	E	10UF		16V
C5710	ECEA1CGE100	E	10UF		16V
C5712	ECEA1HU010	E	1UF		50V
C5713	ECEA1HU330	E	33UF		50V
C5714	ECKF1H103ZF	C	0.01UF	Z	50V
C5715	ECEA1HU010	E	1UF		50V
C5799	ECQF2224JZ	PP	0.22UF	J	200V

RESISTORS

R001	ERDS2TJ331	C	330 OHM	J	1/4W
R002	ERDS2TJ331	C	330 OHM	J	1/4W
R003	ERDS2TJ331	C	330 OHM	J	1/4W
R004	ERDS2TJ331	C	330 OHM	J	1/4W
R005	ERDS2TJ471	C	470 OHM	J	1/4W
R006	ERDS2TJ101	C	100 OHM	J	1/4W
R007	ERDS2TJ101	C	100 OHM	J	1/4W
R008	ERDS2TJ101	C	100 OHM	J	1/4W
R009	ERDS2TJ101	C	100 OHM	J	1/4W
R010	ERDS2TJ472	C	4.7K OHM	J	1/4W
R011	ERDS2TJ472	C	4.7K OHM	J	1/4W
R012	ERDS2TJ472	C	4.7K OHM	J	1/4W
R013	ERDS2TJ223	C	22K OHM	J	1/4W
R014	ERDS2TJ472	C	4.7K OHM	J	1/4W
R015	ERDS2TJ223	C	22K OHM	J	1/4W
R016	ERDS2TJ472	C	4.7K OHM	J	1/4W
R017	ERDS2TJ472	C	4.7K OHM	J	1/4W
R018	ERDS2TJ331	C	330 OHM	J	1/4W
R019	ERDS2TJ331	C	330 OHM	J	1/4W
R020	ERDS2TJ223	C	22K OHM	J	1/4W
R021	ERDS2TJ103	C	10K OHM	J	1/4W
R022	ERDS2TJ223	C	22K OHM	J	1/4W
R023	ERDS2TJ223	C	22K OHM	J	1/4W
R024	ERDS2TJ223	C	22K OHM	J	1/4W
R025	ERDS2TJ223	C	22K OHM	J	1/4W
R026	ERDS2TJ223	C	22K OHM	J	1/4W
R027	ERDS2TJ102	C	1K OHM	J	1/4W
R028	ERDS2TJ472	C	4.7K OHM	J	1/4W
R029	ERDS2TJ472	C	4.7K OHM	J	1/4W
R030	ERDS2TJ472	C	4.7K OHM	J	1/4W
R031	ERDS2TJ472	C	4.7K OHM	J	1/4W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R032	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R122	ERDS2TJ331	C	330	OHM	J 1/4W
R033	ERDS2TJ272	C	2.7K	OHM	J 1/4W	R123	ERDS2TJ223	C	22K	OHM	J 1/4W
R034	ERDS2TJ272	C	2.7K	OHM	J 1/4W	R124	ERDS2TJ103	C	10K	OHM	J 1/4W
R035	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R125	ERDS2TJ472	C	4.7K	OHM	J 1/4W
R036	ERDS2TJ272	C	2.7K	OHM	J 1/4W	R126	ERDS2TJ103	C	10K	OHM	J 1/4W
R037	ERDS2TJ222	C	2.2K	OHM	J 1/4W	R127	ERDS2TJ242	C	2.4K	OHM	J 1/4W
R047	ERDS2TJ331	C	330	OHM	J 1/4W	R128	ERDS2TJ272	C	2.7K	OHM	J 1/4W
R048	ERDS2TJ331	C	330	OHM	J 1/4W	R129	ERDS2TJ122	C	1.2K	OHM	J 1/4W
R049	ERDS2TJ331	C	330	OHM	J 1/4W	R130	ERDS2TJ103	C	10K	OHM	J 1/4W
R050	ERDS2TJ103	C	10K	OHM	J 1/4W	R132	ERD25FJ562K	C	5.6K	OHM	J 1/4W
R053	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R133	ERDS2TJ272	C	2.7K	OHM	J 1/4W
R054	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R134	ERDS2TJ223	C	22K	OHM	J 1/4W
R055	ERDS2TJ331	C	330	OHM	J 1/4W	R137	ERDS2TJ123	C	12K	OHM	J 1/4W
R056	ERDS2TJ102	C	1K	OHM	J 1/4W	R138	ERDS2TJ103	C	10K	OHM	J 1/4W
R057	ERDS2TJ331	C	330	OHM	J 1/4W	R139	ERDS2TJ123	C	12K	OHM	J 1/4W
R058	ERDS2TJ102	C	1K	OHM	J 1/4W	R140	ERDS2TJ103	C	10K	OHM	J 1/4W
R059	ERDS2TJ471	C	470	OHM	J 1/4W	R141	ERDS2TJ471	C	470	OHM	J 1/4W
R060	ERDS2TJ223	C	22K	OHM	J 1/4W	R142	ERDS2TJ103	C	10K	OHM	J 1/4W
R062	ERDS2TJ102	C	1K	OHM	J 1/4W	R143	ERDS2TJ682	C	6.8K	OHM	J 1/4W
R063	EXBF4E122J	RR COMBINATION				R144	ERD25FJ561K	C	560	OHM	J 1/4W
R064	ERDS2TJ821	C	820	OHM	J 1/4W	R145	ERDS2TJ562	C	5.6K	OHM	J 1/4W
R065	ERDS2TJ681	C	680	OHM	J 1/4W	R146	ERDS2TJ103	C	10K	OHM	J 1/4W
R073	ERDS2TJ331	C	330	OHM	J 1/4W	R147	ERDS2TJ123	C	12K	OHM	J 1/4W
R074	ERDS2TJ102	C	1K	OHM	J 1/4W	R148	ERDS2TJ472	C	4.7K	OHM	J 1/4W
R075	ERD25FJ223K	C	22K	OHM	J 1/4W	R149	ERDS2TJ563	C	56K	OHM	J 1/4W
R080	EXBF5E473J	RR COMBINATION				R150	ERDS2TJ123	C	12K	OHM	J 1/4W
R082	ERDS2TJ102	C	1K	OHM	J 1/4W	R151	ERDS2TJ101	C	100	OHM	J 1/4W
R083	ERDS2TJ102	C	1K	OHM	J 1/4W	R152	ERDS2TJ103	C	10K	OHM	J 1/4W
R084	ERDS2TJ101	C	100	OHM	J 1/4W	R153	ERDS2TJ102	C	1K	OHM	J 1/4W
R085	ERDS2TJ103	C	10K	OHM	J 1/4W	R154	ERDS2TJ683	C	68K	OHM	J 1/4W
R086	ERDS2TJ103	C	10K	OHM	J 1/4W	R301	ERDS1FJ471	C	470	OHM	J 1/2W
R087	ERDS2TJ103	C	10K	OHM	J 1/4W	R302	ERDS2TJ390	C	39	OHM	J 1/4W
R088	ERDS2TJ103	C	10K	OHM	J 1/4W	R303	ERDS2TJ2R7	C	2.7	OHM	J 1/4W
R089	ERDS2TJ101	C	100	OHM	J 1/4W	R304	ERDS2TJ2R7	C	2.7	OHM	J 1/4W
R091	ERDS2TJ102	C	1K	OHM	J 1/4W	R305	ERDS2TJ390	C	39	OHM	J 1/4W
R092	ERDS2TJ122	C	1.2K	OHM	J 1/4W	R306	ERDS2TJ122	C	1.2K	OHM	J 1/4W
R093	ERDS2TJ683	C	68K	OHM	J 1/4W	R307	ERDS2TJ563	C	56K	OHM	J 1/4W
R094	ERDS2TJ392	C	3.9K	OHM	J 1/4W	R308	ERDS2TJ563	C	56K	OHM	J 1/4W
R096	ERDS2TJ393	C	39K	OHM	J 1/4W	R309	ERDS2TJ122	C	1.2K	OHM	J 1/4W
R097	ERDS2TJ223	C	22K	OHM	J 1/4W	R310	ERQ12AJ151	F	150	OHM	J 1/2W
R098	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R311	ERDS2TJ101	C	100	OHM	J 1/4W
R100	ERDS2TJ152	C	1.5K	OHM	J 1/4W	R312	ERDS2TJ820	C	82	OHM	J 1/4W
R101	ERDS2TJ102	C	1K	OHM	J 1/4W	R313	ERDS2TJ820	C	82	OHM	J 1/4W
R102	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R314	ERDS2TJ103	C	10K	OHM	J 1/4W
R103	ERDS2TJ223	C	22K	OHM	J 1/4W	R315	ERDS2TJ182	C	1.8K	OHM	J 1/4W
R104	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R316	ERQ14AJ100	F	10	OHM	J 1/4W
R105	EROS2CKF1002	M	10K	OHM	F 1/4W	R317	ERDS2TJ121	C	120	OHM	J 1/4W
R106	EROS2CKF1002	M	10K	OHM	F 1/4W	R318	ERDS2TJ221	C	220	OHM	J 1/4W
R107	EROS2CKF1002	M	10K	OHM	F 1/4W	R319	ERDS2TJ183	C	18K	OHM	J 1/4W
R108	EROS2CKF5111	M	5.11K	OHM	F 1/4W	R320	ERDS2TJ222	C	2.2K	OHM	J 1/4W
R109	EROS2CKF1741	M	1.74K	OHM	F 1/4W	R321	ERDS2TJ471	C	470	OHM	J 1/4W
R110	EROS2CKF3161	M	3.16K	OHM	F 1/4W	R351	ERDS2TJ101	C	100	OHM	J 1/4W
R111	ERDS2TJ223	C	22K	OHM	J 1/4W	R352	ERDS2TJ101	C	100	OHM	J 1/4W
R112	ERDS2TJ223	C	22K	OHM	J 1/4W	R353	ERDS2TJ101	C	100	OHM	J 1/4W
R114	ERDS2TJ103	C	10K	OHM	J 1/4W	R354	ERDS2TJ102	C	1K	OHM	J 1/4W
R115	ERD25FJ102K	C	1K	OHM	J 1/4W	R355	ERDS2TJ102	C	1K	OHM	J 1/4W
R116	ERD25FJ102K	C	1K	OHM	J 1/4W	R356	ERDS2TJ102	C	1K	OHM	J 1/4W
R117	ERD25FJ102K	C	1K	OHM	J 1/4W	R357	ERDS2TJ121	C	120	OHM	J 1/4W
R118	ERD25FJ102K	C	1K	OHM	J 1/4W	R358	ERDS2TJ121	C	120	OHM	J 1/4W
R119	ERD25FJ332K	C	3.3K	OHM	J 1/4W	R359	ERDS2TJ121	C	120	OHM	J 1/4W
R120	ERD25FJ332K	C	3.3K	OHM	J 1/4W	R360	ERDS2TJ180	C	18	OHM	J 1/4W
R121	ERD25FJ101K	C	100	OHM	J 1/4W	R361	ERDS2TJ120	C	12	OHM	J 1/4W

	Ref.No.	Part No.	Description					Ref.No.	Part No.	Description			
	R362	ERDS2TJ150	C	15	OHM	J	1/4W	R480	ERDS2TJ822	C	8.2K	OHM	J 1/4W
	R363	ERDS2TJ221	C	220	OHM	J	1/4W	R481	ERDS2TJ392	C	3.9K	OHM	J 1/4W
	R364	ERDS2TJ221	C	220	OHM	J	1/4W	R482	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R365	ERDS2TJ221	C	220	OHM	J	1/4W	R483	ERDS2TJ153	C	15K	OHM	J 1/4W
	R366	ERDS2TJ101	C	100	OHM	J	1/4W	R484	ERDS2TJ101	C	100	OHM	J 1/4W
								R485	ERDS2TJ102	C	1K	OHM	J 1/4W
	R367	ERDS2TJ101	C	100	OHM	J	1/4W	R486	ERDS2TJ472	C	4.7K	OHM	J 1/4W
	R368	ERDS2TJ101	C	100	OHM	J	1/4W	R489	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R369	ERDS2TJ123	C	12K	OHM	J	1/4W	R502	ERDS2TJ683	C	68K	OHM	J 1/4W
	R370	ERDS2TJ123	C	12K	OHM	J	1/4W	R503	ERDS2TJ102	C	1K	OHM	J 1/4W
	R371	ERDS2TJ123	C	12K	OHM	J	1/4W	R504	ERDS2TJ820	C	82	OHM	J 1/4W
⚠	R372	ERG3SJ123	M	12K	OHM	J	3W	R505	ERDS2TJ682	C	6.8K	OHM	J 1/4W
⚠	R373	ERG3SJ123	M	12K	OHM	J	3W	R506	ERDS2TJ184	C	180K	OHM	J 1/4W
⚠	R374	ERG3SJ123	M	12K	OHM	J	3W	R509	ERDS2TJ473	C	47K	OHM	J 1/4W
	R375	ERDS1FJ330	C	33	OHM	J	1/2W	R511	ERDS2TJ223	C	22K	OHM	J 1/4W
	R376	ERDS1FJ330	C	33	OHM	J	1/2W	R512	ERO25CKF1502	M	15K	OHM	F 1/4W
	R377	ERDS1FJ330	C	33	OHM	J	1/2W	R515	EROS2CKF5600	M	560	OHM	F 1/4W
	R378	ERDS1FJ330	C	33	OHM	J	1/2W	R517	ERDS2TJ332	C	3.3K	OHM	J 1/4W
	R379	ERDS1FJ330	C	33	OHM	J	1/2W	R522	ERDS2TJ224	C	220K	OHM	J 1/4W
	R380	ERDS1FJ330	C	33	OHM	J	1/2W	R523	ERDS2TJ103	C	10K	OHM	J 1/4W
	R381	ERQ12AJ331	F	330	OHM	J	1/2W	R524	ERDS2TJ102	C	1K	OHM	J 1/4W
	R382	ERQ12AJ331	F	330	OHM	J	1/2W	R525	ERDS2TJ334	C	330K	OHM	J 1/4W
	R383	ERQ12AJ331	F	330	OHM	J	1/2W	R526	ERDS2TJ823	C	.82K	OHM	J 1/4W
	R384	ERDS1FJ101	C	100	OHM	J	1/2W	R527	ERDS2TJ183	C	18K	OHM	J 1/4W
	R385	ERDS1FJ101	C	100	OHM	J	1/2W	R528	ERDS2TJ223	C	22K	OHM	J 1/4W
	R386	ERDS1FJ101	C	100	OHM	J	1/2W	R529	EROS2CKF3901	M	3.9K	OHM	F 1/4W
	R387	ERDS1FJ122	C	1.2K	OHM	J	1/2W	R531	ERDS2TJ103	C	10K	OHM	J 1/4W
	R388	ERDS1FJ122	C	1.2K	OHM	J	1/2W	R532	ERDS2TJ103	C	10K	OHM	J 1/4W
	R389	ERDS1FJ122	C	1.2K	OHM	J	1/2W	R535	ERDS2TJ391	C	390	OHM	J 1/4W
	R393	ERDS2TJ184	C	180K	OHM	J	1/4W	R536	ERDS2TJ125	C	1.2M	OHM	J 1/4W
	R394	ERDS2TJ184	C	180K	OHM	J	1/4W	R540	ERD25FJ8R2K	C	8.2	OHM	J 1/4W
	R395	ERDS2TJ184	C	180K	OHM	J	1/4W	R541	ERDS2TJ331	C	330	OHM	J 1/4W
	R401	ERDS2TJ683	C	68K	OHM	J	1/4W	R542	ERO25CKF1502	M	15K	OHM	F 1/4W
	R403	ERDS2TJ393	C	39K	OHM	J	1/4W	R551	ERD25FJ471K	C	470	OHM	J 1/4W
	R404	ERDS2TJ222	C	2.2K	OHM	J	1/4W	R552	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R405	ERDS2TJ222	C	2.2K	OHM	J	1/4W	⚠ R553	ERQ2CJ471	F	470	OHM	J 2W
	R407	ERDS2TJ822	C	8.2K	OHM	J	1/4W	R554	ERG5ZJ392	M	3.9K	OHM	J 5W
	R409	ERDS2TJ393	C	39K	OHM	J	1/4W	R555	ERDS2TJ273	C	27K	OHM	J 1/4W
	R420	ERD25FJ222K	C	2.2K	OHM	J	1/4W	R556	ERDS2TJ102	C	1K	OHM	J 1/4W
	R421	ERD25FJ103K	C	10K	OHM	J	1/4W	R557	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R423	ERDS2TJ103	C	10K	OHM	J	1/4W	R558	ERDS1FJ184	C	180K	OHM	J 1/2W
	R424	ERDS2TJ681	C	680	OHM	J	1/4W	R572	ERDS1FJ224	C	220K	OHM	J 1/2W
	R451	ERDS2TJ102	C	1K	OHM	J	1/4W	R573	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R452	ERDS2TJ333	C	33K	OHM	J	1/4W	R574	ERDS1FJ224	C	220K	OHM	J 1/2W
	R453	ERDS2TJ332	C	3.3K	OHM	J	1/4W	R577	ERQ2CJ1R0	F	1	OHM	J 2W
	R454	ERDS2TJ473	C	47K	OHM	J	1/4W	R578	ERG2ANJ152	M	1.5K	OHM	J 2W
	R455	ERDS2TJ222	C	2.2K	OHM	J	1/4W	R580	ERW12PKR22	W	0.22	OHM	K 1/2W
	R456	ERDS2TJ562	C	5.6K	OHM	J	1/4W	R585	EROS2CKF3901	M	3.9K	OHM	F 1/4W
	R458	ERDS2TJ1R5	C	1.5	OHM	J	1/4W	R600	ERQ12HJ3R3	F	3.3	OHM	J 1/2W
	R459	ERDS2TJ330	C	33	OHM	J	1/4W	R601	ERDS2TJ331	C	330	OHM	J 1/4W
	R460	ERD25FJ330K	C	33	OHM	J	1/4W	R602	ERDS2TJ122	C	1.2K	OHM	J 1/4W
	R461	ERDS2TJ562	C	5.6K	OHM	J	1/4W	R603	ERD25FJ331K	C	330	OHM	J 1/4W
	R462	ERX1SJR82	M	0.82	OHM	J	1W	R605	ERDS2TJ273	C	27K	OHM	J 1/4W
	R463	ERG1SJ221	M	220	OHM	J	1W	R606	ERDS2TJ562	C	5.6K	OHM	J 1/4W
	R464	ERDS2TJ3S2	C	3.9K	OHM	J	1/4W	R607	ERDS2TJ561	C	560	OHM	J 1/4W
	R465	ERDS2TJ153	C	15K	OHM	J	1/4W	R608	ERDS2TJ101	C	100	OHM	J 1/4W
	R466	ERG2SJ181	M	180	OHM	J	2W	R609	ERDS2TJ561	C	560	OHM	J 1/4W
	R467	ERDS2TJ392	C	3.9K	OHM	J	1/4W	R610	ERDS2TJ561	C	560	OHM	J 1/4W
	R469	ERDS2TJ152	C	1.5K	OHM	J	1/4W	R611	ERDS2TJ561	C	560	OHM	J 1/4W
	R472	ERDS2TJ392	C	3.9K	OHM	J	1/4W	R612	ERDS2TJ561	C	560	OHM	J 1/4W
	R473	ERDS2TJ561	C	560	OHM	J	1/4W	R613	ERDS2TJ561	C	560	OHM	J 1/4W
	R474	ERDS2TJ561	C	560	OHM	J	1/4W	R614	ERDS2TJ103	C	10K	OHM	J 1/4W
	R475	ERDS2TJ562	C	5.6K	OHM	J	1/4W	R615	ERDS2TJ103	C	10K	OHM	J 1/4W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R616	ERDS2TJ152	C	1.5K OHM	J	1/4W	R687	ERDS2TJ472	C	4.7K OHM	J	1/4W
R617	ERDS2TJ333	C	33K OHM	J	1/4W	R688	ERDS2TJ472	C	4.7K OHM	J	1/4W
R618	ERDS2TJ562	C	5.6K OHM	J	1/4W	R689	ERDS2TJ223	C	22K OHM	J	1/4W
R619	ERDS2TJ102	C	1K OHM	J	1/4W	R690	ERDS2TJ472	C	4.7K OHM	J	1/4W
R621	ERDS2TJ181	C	180 OHM	J	1/4W	R691	ERDS2TJ223	C	22K OHM	J	1/4W
R622	ERDS2TJ331	C	330 OHM	J	1/4W	R692	ERDS2TJ472	C	4.7K OHM	J	1/4W
R623	ERDS2TJ102	C	1K OHM	J	1/4W	R696	ERQ12HJ100	F	10 OHM	J	1/2W
R624	ERDS2TJ331	C	330 OHM	J	1/4W	R698	ERDS2TJ331	C	330 OHM	J	1/4W
R625	ERDS2TJ473	C	47K OHM	J	1/4W	R770	ERD25FJ103K	C	10K OHM	J	1/4W
R626	ERDS2TJ103	C	10K OHM	J	1/4W	R771	ERDS2TJ472	C	4.7K OHM	J	1/4W
R627	ERC14GJ106	S	10M OHM	J	1/4W	R772	ERDS2TJ472	C	4.7K OHM	J	1/4W
R628	ERD25FJ101K	C	100 OHM	J	1/4W	R773	ERF2AJ150	W	15 OHM	J	2W
R629	ERDS2TJ101	C	100 OHM	J	1/4W	⚠ R801	ERF7ZK1R0	W	1 OHM	K	7W
R630	ERD25FJ101K	C	100 OHM	J	1/4W	⚠ R803	ERDS1FJ223	C	22K OHM	J	1/2W
R631	ERDS2TJ331	C	330 OHM	J	1/4W	⚠ R805	ERG2ANJ470	M	47 OHM	J	2W
R632	ERDS2TJ102	C	1K OHM	J	1/4W	⚠ R806	ERF5ZJ180	W	18 OHM	J	5W
R633	ERDS2TJ124	C	120K OHM	J	1/4W	⚠ R808	ERDS2TJ333	C	33K OHM	J	1/4W
R634	ERDS2TJ681	C	680 OHM	J	1/4W	⚠ R809	ERG2SJ823	M	82K OHM	J	2W
R635	ERDS2TJ124	C	120K OHM	J	1/4W	R810	ERDS1FJ223	C	22K OHM	J	1/2W
R636	ERDS2TJ331	C	330 OHM	J	1/4W	⚠ R811	ERQ1CKPR33S	F	0.33 OHM	K	1W
R637	ERDS2TJ102	C	1K OHM	J	1/4W	R812	ERDS1FJ223	C	22K OHM	J	1/2W
R638	ERDS2TJ221	C	220 OHM	J	1/4W	R813	ERDS1FJ153	C	15K OHM	J	1/2W
R639	ERDS2TJ331	C	330 OHM	J	1/4W	⚠ R814	ERD75TAJ825	C	8.2M OHM	J	3/4W
R641	ERDS2TJ102	C	1K OHM	J	1/4W	⚠ R815	ERW12PKR33	W	0.33 OHM	K	1/2W
R642	ERDS2TJ152	C	1.5K OHM	J	1/4W	⚠ R816	ERDS1FJ331	C	330 OHM	J	1/2W
R643	ERDS2TJ222	C	2.2K OHM	J	1/4W	⚠ R820	ERW12PKR33	W	0.33 OHM	K	1/2W
R644	ERDS2TJ152	C	1.5K OHM	J	1/4W	⚠ R821	ERQ12HJ1R2	F	1.2 OHM	J	1/2W
R645	ERDS2TJ471	C	470 OHM	J	1/4W	R824	ERD25FJ102K	C	1K OHM	J	1/4W
R646	ERDS2TJ331	C	330 OHM	J	1/4W	⚠ R825	ERDS2TJ821	C	820 OHM	J	1/4W
R647	ERDS2TJ102	C	1K OHM	J	1/4W	⚠ R826	ERQ3CJ3R9	F	3.9 OHM	J	3W
R648	ERDS2TJ221	C	220 OHM	J	1/4W	⚠ R831	ERQ1CKPR33S	F	0.33 OHM	K	1W
R649	ERDS2TJ822	C	8.2K OHM	J	1/4W	⚠ R849	ERF15ZJ680	W	68 OHM	J	15W
R650	ERDS2TJ103	C	10K OHM	J	1/4W	R851	ERDS2TJ103	C	10K OHM	J	1/4W
R651	ERDS2TJ103	C	10K OHM	J	1/4W	R852	ERDS2TJ223	C	22K OHM	J	1/4W
R652	ERDS2TJ272	C	2.7K OHM	J	1/4W	R854	ERDS2TJ333	C	33K OHM	J	1/4W
R653	ERDS2TJ391	C	390 OHM	J	1/4W	R855	ERDS2TJ333	C	33K OHM	J	1/4W
R654	ERDS2TJ561	C	560 OHM	J	1/4W	R856	ERDS2TJ102	C	1K OHM	J	1/4W
R655	ERDS2TJ472	C	4.7K OHM	J	1/4W	R860	ERDS1FJ1R0	C	1 OHM	J	1/2W
R656	ERDS2TJ331	C	330 OHM	J	1/4W	R861	ERDS1FJ1R0	C	1 OHM	J	1/2W
R657	ERDS2TJ122	C	1.2K OHM	J	1/4W	R862	ERDS1FJ1R0	C	1 OHM	J	1/2W
R661	ERDS2TJ512	C	5.1K OHM	J	1/4W	R863	ERDS1FJ272	C	2.7K OHM	J	1/2W
R662	ERDS2TJ103	C	10K OHM	J	1/4W	R864	ERD25FJ223K	C	22K OHM	J	1/4W
R664	ERDS2TJ471	C	470 OHM	J	1/4W	R865	ERDS2TJ223	C	22K OHM	J	1/4W
R665	ERDS2TJ821	C	820 OHM	J	1/4W	R866	ERDS2TJ562	C	5.6K OHM	J	1/4W
R666	ERDS2TJ681	C	680 OHM	J	1/4W	R867	ERDS2TJ102	C	1K OHM	J	1/4W
R667	ERDS2TJ821	C	820 OHM	J	1/4W	R870	ERF2AJ100	W	10 OHM	J	2W
R668	ERDS2TJ681	C	680 OHM	J	1/4W	R1300	ERDS2TJ103	C	10K OHM	J	1/4W
R669	ERDS2TJ104	C	100K OHM	J	1/4W	R1301	ERDS2TJ153	C	15K OHM	J	1/4W
R671	ERDS2TJ332	C	3.3K OHM	J	1/4W	R1302	ERDS2TJ682	C	6.8K OHM	J	1/4W
R672	ERD25FJ101K	C	100 OHM	J	1/4W	R1303	ERDS2TJ472	C	4.7K OHM	J	1/4W
R673	ERDS2TJ561	C	560 OHM	J	1/4W	R1304	ERDS2TJ222	C	2.2K OHM	J	1/4W
R674	ERDS2TJ472	C	4.7K OHM	J	1/4W	R1305	ERDS2TJ101	C	100 OHM	J	1/4W
R675	ERDS2TJ682	C	6.8K OHM	J	1/4W	R1306	EROS2CKF6340	M	634 OHM	F	1/4W
R676	ERDS2TJ101	C	100 OHM	J	1/4W	R1307	ERDS2TJ101	C	100 OHM	J	1/4W
R677	ERDS2TJ101	C	100 OHM	J	1/4W	R1308	ERDS2TJ121	C	120 OHM	J	1/4W
R678	ERDS2TJ101	C	100 OHM	J	1/4W	R1309	ERDS2TJ471	C	470 OHM	J	1/4W
R679	ERDS2TJ222	C	2.2K OHM	J	1/4W	R1310	ERDS2TJ472	C	4.7K OHM	J	1/4W
R680	ERDS2TJ105	C	1M OHM	J	1/4W	R1311	ERDS2TJ222	C	2.2K OHM	J	1/4W
R681	ERDS2TJ104	C	100K OHM	J	1/4W	R1312	ERDS2TJ102	C	1K OHM	J	1/4W
R684	ERDS2TJ181	C	180 OHM	J	1/4W	R1313	ERDS2TJ102	C	1K OHM	J	1/4W
R685	ERDS2TJ122	C	1.2K OHM	J	1/4W	R1314	ERDS2TJ472	C	4.7K OHM	J	1/4W
R686	ERDS2TJ472	C	4.7K OHM	J	1/4W	R1315	ERDS2TJ222	C	2.2K OHM	J	1/4W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R1317	ERD25FJ222K	C	2.2K OHM	J	1/4W	R1618	ERDS2TJ273	C	27K OHM	J	1/4W
R1318	ERDS2TJ331	C	330 OHM	J	1/4W	R1619	ERDS2TJ393	C	39K OHM	J	1/4W
R1319	ERDS2TJ333	C	33K OHM	J	1/4W	R1620	ERDS2TJ331	C	330 OHM	J	1/4W
R1320	ERDS2TJ222	C	2.2K OHM	J	1/4W	R1621	ERDS2TJ103	C	10K OHM	J	1/4W
R1321	ERDS2TJ391	C	390 OHM	J	1/4W	R1622	ERDS2TJ102	C	1K OHM	J	1/4W
R1322	ERDS2TJ331	C	330 OHM	J	1/4W	R1623	ERDS2TJ822	C	8.2K OHM	J	1/4W
R1323	ERDS2TJ102	C	1K OHM	J	1/4W	R1625	ERDS2TJ223	C	22K OHM	J	1/4W
R1324	ERDS2TJ102	C	1K OHM	J	1/4W	R1627	EROS2CKF4701	M	4.7K OHM	F	1/4W
R1325	ERDS2TJ152	C	1.5K OHM	J	1/4W	R1628	EROS2CKF3741	M	3.74K OHM	F	1/4W
R1326	ERD25FJ102K	C	1K OHM	J	1/4W	R1629	EROS2CKF4702	M	47K OHM	F	1/4W
R1327	ERDS2TJ102	C	1K OHM	J	1/4W	R1630	EROS2CKF4021	M	4.02K OHM	F	1/4W
R1332	ERDS2TJ223	C	22K OHM	J	1/4W	R1631	ERDS2TJ223	C	22K OHM	J	1/4W
R1333	ERDS2TJ473	C	47K OHM	J	1/4W	R1632	ERDS2TJ333	C	33K OHM	J	1/4W
R1334	ERDS2TJ391	C	390 OHM	J	1/4W	R1633	ERDS2TJ273	C	27K OHM	J	1/4W
R1335	ERDS2TJ222	C	2.2K OHM	J	1/4W	R1634	ERDS2TJ153	C	15K OHM	J	1/4W
R1336	ERDS2TJ331	C	330 OHM	J	1/4W	R1635	ERDS2TJ471	C	470 OHM	J	1/4W
R1341	ERDS2TJ101	C	100 OHM	J	1/4W	R1636	ERDS2TJ101	C	100 OHM	J	1/4W
R1344	ERDS2TJ102	C	1K OHM	J	1/4W	R1637	ERDS2TJ103	C	10K OHM	J	1/4W
R1345	ERDS2TJ152	C	1.5K OHM	J	1/4W	R1638	ERDS2TJ271	C	270 OHM	J	1/4W
R1356	ERDS2TJ302	C	3K OHM	J	1/4W	R1639	ERDS2TJ393	C	39K OHM	J	1/4W
R1358	ERDS2TJ391	C	390 OHM	J	1/4W	R1640	ERDS2TJ681	C	680 OHM	J	1/4W
R1359	ERDS2TJ561	C	560 OHM	J	1/4W	R1641	ERDS2TJ271	C	270 OHM	J	1/4W
R1361	ERDS2TJ222	C	2.2K OHM	J	1/4W	R1642	ERDS2TJ561	C	560 OHM	J	1/4W
R1362	ERDS2TJ271	C	270 OHM	J	1/4W	R1643	ERDS2TJ103	C	10K OHM	J	1/4W
R1369	ERDS2TJ221	C	220 OHM	J	1/4W	R1644	ERDS2TJ102	C	1K OHM	J	1/4W
R1371	ERDS2TJ102	C	1K OHM	J	1/4W	R1645	ERDS2TJ102	C	1K OHM	J	1/4W
R1372	ERDS2TJ472	C	4.7K OHM	J	1/4W	R1646	ERDS2TJ223	C	22K OHM	J	1/4W
R1373	ERDS2TJ224	C	220K OHM	J	1/4W	R1647	ERDS2TJ473	C	47K OHM	J	1/4W
R1374	ERDS2TJ563	C	56K OHM	J	1/4W	R1648	ERDS2TJ102	C	1K OHM	J	1/4W
R1375	ERDS2TJ102	C	1K OHM	J	1/4W	R1649	ERDS2TJ223	C	22K OHM	J	1/4W
R1376	ERDS2TJ333	C	33K OHM	J	1/4W	R1650	ERDS2TJ102	C	1K OHM	J	1/4W
R1377	ERDS2TJ103	C	10K OHM	J	1/4W	R1651	EROS2CKF3901	M	3.9K OHM	F	1/4W
R1378	ERDS2TJ103	C	10K OHM	J	1/4W	R1652	EROS2CKF2202	M	22K OHM	F	1/4W
R1379	ERDS2TJ102	C	1K OHM	J	1/4W	R1653	EROS2CKF2871	M	2.87K OHM	F	1/4W
R1380	EXBF4E103J	RR	COMBINATION			R1654	EROS2CKF7501	M	7.5K OHM	F	1/4W
R1381	EXBF4E103J	RR	COMBINATION			R1655	EROS2CKF5101	M	5.1K OHM	F	1/4W
R1382	ERDS2TJ102	C	1K OHM	J	1/4W	R1657	ERDS2TJ393	C	39K OHM	J	1/4W
R1383	ERDS2TJ562	C	5.6K OHM	J	1/4W	R1658	ERDS2TJ682	C	6.8K OHM	J	1/4W
R1384	ERDS2TJ561	C	560 OHM	J	1/4W	R1659	ERDS2TJ102	C	1K OHM	J	1/4W
R1386	ERDS2TJ102	C	1K OHM	J	1/4W	R1660	ERDS2TJ102	C	1K OHM	J	1/4W
R1387	ERD25FJ123K	C	12K OHM	J	1/4W	R1661	ERDS2TJ273	C	27K OHM	J	1/4W
R1388	ERDS2TJ102	C	1K OHM	J	1/4W	R1662	ERDS2TJ153	C	15K OHM	J	1/4W
R1389	ERDS2TJ103	C	10K OHM	J	1/4W	R1663	ERDS2TJ561	C	560 OHM	J	1/4W
R1394	EXBF5E472J	RR	COMBINATION			R1664	ERDS2TJ182	C	1.8K OHM	J	1/4W
R1395	ERDS2TJ101	C	100 OHM	J	1/4W	R1665	ERDS2TJ103	C	10K OHM	J	1/4W
R1398	ERDS2TJ103	C	10K OHM	J	1/4W	R1668	ERDS2TJ393	C	39K OHM	J	1/4W
R1399	ERD25FJ331K	C	330 OHM	J	1/4W	R1670	ERDS2TJ273	C	27K OHM	J	1/4W
R1601	ERDS2TJ103	C	10K OHM	J	1/4W	R1671	ERDS2TJ101	C	100 OHM	J	1/4W
R1602	ERDS2TJ103	C	10K OHM	J	1/4W	R1672	ERDS2TJ123	C	12K OHM	J	1/4W
R1603	ERDS2TJ222	C	2.2K OHM	J	1/4W	R1673	ERDS2TJ123	C	12K OHM	J	1/4W
R1605	ERDS2TJ221	C	220 OHM	J	1/4W	R1676	ERDS2TJ271	C	270 OHM	J	1/4W
R1606	ERDS2TJ103	C	10K OHM	J	1/4W	R3300	ERDS2TJ101	C	100 OHM	J	1/4W
R1608	ERDS2TJ153	C	15K OHM	J	1/4W	R3302	ERDS2TJ101	C	100 OHM	J	1/4W
R1609	ERDS2TJ101	C	100 OHM	J	1/4W	R3304	ERDS2TJ103	C	10K OHM	J	1/4W
R1610	ERDS2TJ561	C	560 OHM	J	1/4W	R3305	ERDS2TJ102	C	1K OHM	J	1/4W
R1611	ERDS2TJ222	C	2.2K OHM	J	1/4W	R3307	ERDS2TJ101	C	100 OHM	J	1/4W
R1612	ERDS2TJ561	C	560 OHM	J	1/4W	R3308	ERDS2TJ124	C	120K OHM	J	1/4W
R1613	ERDS2TJ182	C	1.8K OHM	J	1/4W	R3309	ERDS2TJ102	C	1K OHM	J	1/4W
R1614	ERDS2TJ471	C	470 OHM	J	1/4W	R3315	ERDS2TJ103	C	10K OHM	J	1/4W
R1615	ERDS2TJ331	C	330 OHM	J	1/4W	R3316	ERDS2TJ102	C	1K OHM	J	1/4W
R1616	ERDS2TJ223	C	22K OHM	J	1/4W	R3318	ERDS2TJ102	C	1K OHM	J	1/4W
R1617	ERDS2TJ474	C	470K OHM	J	1/4W	R3319	ERD25FJ104K	C	100K OHM	J	1/4W

FT-2900/2900G

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R3320	ERDS2TJ103	C	10K	OHM	J 1/4W	R3428	ERDS2TJ562	C	5.6K	OHM	J 1/4W
R3321	ERDS2TJ101	C	100	OHM	J 1/4W	R3430	ERDS2TJ682	C	6.8K	OHM	J 1/4W
R3322	ERDS2TJ101	C	100	OHM	J 1/4W	R3431	ERDS2TJ222	C	2.2K	OHM	J 1/4W
R3323	ERDS2TJ101	C	100	OHM	J 1/4W	R3432	ERDS2TJ682	C	6.8K	OHM	J 1/4W
R3324	ERDS2TJ101	C	100	OHM	J 1/4W	R3451	ERDS2TJ152	C	1.5K	OHM	J 1/4W
						R3495	ERDS2TJ391	C	390	OHM	J 1/4W
R3325	ERDS2TJ101	C	100	OHM	J 1/4W	R4101	ERDS2CKF1002	M	10K	OHM	F 1/4W
R3326	ERDS2TJ101	C	100	OHM	J 1/4W	R4102	ERDS2CKF1741	M	1.74K	OHM	F 1/4W
R3327	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4103	ERDS2CKF1431	M	1.43K	OHM	F 1/4W
R3328	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4104	ERDS2CKF1871	M	1.87K	OHM	F 1/4W
R3329	ERDS2TJ101	C	100	OHM	J 1/4W	R4105	ERDS2CKF3161	M	3.16K	OHM	F 1/4W
R3330	ERDS2TJ101	C	100	OHM	J 1/4W	R4106	ERDS2CKF4871	M	4.87K	OHM	F 1/4W
R3332	ERDS2TJ392	C	3.9K	OHM	J 1/4W	R4107	ERDS2CKF9531	M	9.53K	OHM	F 1/4W
R3333	ERDS2TJ273	C	27K	OHM	J 1/4W	R4108	ERDS2CKF2152	M	21.5K	OHM	F 1/4W
R3334	ERDS2TJ101	C	100	OHM	J 1/4W	R4109	ERDS2CKF1002	M	10K	OHM	F 1/4W
R3335	ERDS2TJ273	C	27K	OHM	J 1/4W	R4110	ERDS2CKF1741	M	1.74K	OHM	F 1/4W
R3338	ERDS2TJ821	C	820	OHM	J 1/4W	R4111	ERDS2CKF1431	M	1.43K	OHM	F 1/4W
R3346	ERDS2TJ333	C	33K	OHM	J 1/4W	R4112	ERDS2CKF1871	M	1.87K	OHM	F 1/4W
R3348	ERDS2TJ102	C	1K	OHM	J 1/4W	R4113	ERDS2CKF3161	M	3.16K	OHM	F 1/4W
R3352	ERDS2TJ333	C	33K	OHM	J 1/4W	R4114	ERDS2CKF4871	M	4.87K	OHM	F 1/4W
R3355	ERDS2TJ273	C	27K	OHM	J 1/4W	R4115	ERDS2CKF9531	M	9.53K	OHM	F 1/4W
R3357	ERDS2TJ912	C	9.1K	OHM	J 1/4W	R4116	ERDS2CKF2152	M	21.5K	OHM	F 1/4W
R3359	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4117	ERDS2TJ332	C	3.3K	OHM	J 1/4W
R3361	ERDS2TJ183	C	18K	OHM	J 1/4W	R4119	ERDS2TJ103	C	10K	OHM	J 1/4W
R3362	ERDS2TJ104	C	100K	OHM	J 1/4W	R4120	ERDS2TJ561	C	560	OHM	J 1/4W
R3363	ERDS2TJ684	C	680K	OHM	J 1/4W	R4121	ERDS2TJ333	C	33K	OHM	J 1/4W
R3364	ERDS2TJ684	C	680K	OHM	J 1/4W	R4123	ERDS2TJ223	C	22K	OHM	J 1/4W
R3365	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R4124	ERDS2TJ102	C	1K	OHM	J 1/4W
R3367	ERDS2TJ681	C	680	OHM	J 1/4W	R4201	ERD25FJ102K	C	1K	OHM	J 1/4W
R3374	ERDS2TJ103	C	10K	OHM	J 1/4W	R4202	ERDS2TJ104	C	100K	OHM	J 1/4W
R3377	ERDS2TJ102	C	1K	OHM	J 1/4W	R4203	ERDS2TJ102	C	1K	OHM	J 1/4W
R3378	ERDS2TJ152	C	1.5K	OHM	J 1/4W	R4204	ERDS2TJ104	C	100K	OHM	J 1/4W
R3379	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4205	ERDS2TJ102	C	1K	OHM	J 1/4W
R3380	ERDS2TJ101	C	100	OHM	J 1/4W	R4206	ERDS2TJ104	C	100K	OHM	J 1/4W
R3382	ERDS2TJ101	C	100	OHM	J 1/4W	R4207	ERDS2TJ102	C	1K	OHM	J 1/4W
R3384	ERDS2TJ101	C	100	OHM	J 1/4W	R4208	ERDS2TJ104	C	100K	OHM	J 1/4W
R3385	ERDS2TJ333	C	33K	OHM	J 1/4W	R4209	ERDS2TJ102	C	1K	OHM	J 1/4W
R3386	ERDS2TJ102	C	1K	OHM	J 1/4W	R4210	ERDS2TJ104	C	100K	OHM	J 1/4W
R3389	ERDS2TJ101	C	100	OHM	J 1/4W	R4301	ERD25FJ750K	C	75	OHM	J 1/4W
R3392	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4302	ERD25FJ750K	C	75	OHM	J 1/4W
R3394	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4303	ERD25FJ750K	C	75	OHM	J 1/4W
R3395	ERDS2TJ222	C	2.2K	OHM	J 1/4W	R4304	ERD25FJ750K	C	75	OHM	J 1/4W
R3396	ERD25FJ222K	C	2.2K	OHM	J 1/4W	R4307	ERD25FJ750K	C	75	OHM	J 1/4W
R3397	ERQ1CJ1R0	F	1	OHM	J 1W	R4308	ERD25FJ470K	C	47	OHM	J 1/4W
R3398	ERDS2TJ222	C	2.2K	OHM	J 1/4W	R4309	ERD25FJ470K	C	47	OHM	J 1/4W
R3399	ERDS2TJ222	C	2.2K	OHM	J 1/4W	R4310	ERD25FJ470K	C	47	OHM	J 1/4W
R3400	ERD25FJ222K	C	2.2K	OHM	J 1/4W	R4311	ERD25FJ750K	C	75	OHM	J 1/4W
R3404	ERDS2TJ153	C	15K	OHM	J 1/4W	R4312	ERDS2TJ103	C	10K	OHM	J 1/4W
R3410	ERDS2TJ223	C	22K	OHM	J 1/4W	R4313	ERDS2TJ222	C	2.2K	OHM	J 1/4W
R3411	ERD25FJ682K	C	6.8K	OHM	J 1/4W	R4314	ERDS2TJ103	C	10K	OHM	J 1/4W
R3413	ERDS2TJ275	C	2.7M	OHM	J 1/4W	R4315	ERDS2TJ331	C	330	OHM	J 1/4W
R3414	ERDS2TJ103	C	10K	OHM	J 1/4W	R4316	ERDS2TJ473	C	47K	OHM	J 1/4W
R3415	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R4317	ERDS2TJ331	C	330	OHM	J 1/4W
R3416	ERDS2TJ103	C	10K	OHM	J 1/4W	R4318	ERDS2TJ101	C	100	OHM	J 1/4W
R3417	ERDS2TJ153	C	15K	OHM	J 1/4W	R4319	ERDS2TJ393	C	39K	OHM	J 1/4W
R3420	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4320	ERDS2TJ223	C	22K	OHM	J 1/4W
R3421	ERDS2TJ331	C	330	OHM	J 1/4W	R4321	ERDS2TJ332	C	3.3K	OHM	J 1/4W
R3422	ERDS2TJ331	C	330	OHM	J 1/4W	R4322	ERDS2TJ223	C	22K	OHM	J 1/4W
R3423	ERDS2TJ391	C	390	OHM	J 1/4W	R4323	ERDS2TJ332	C	3.3K	OHM	J 1/4W
R3424	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4335	ERDS2TJ104	C	100K	OHM	J 1/4W
R3425	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R4336	ERDS2TJ122	C	1.2K	OHM	J 1/4W
R3426	ERDS2TJ103	C	10K	OHM	J 1/4W	R4337	ERDS2TJ102	C	1K	OHM	J 1/4W
R3427	ERDS2TJ561	C	560	OHM	J 1/4W	R4338	ERDS2TJ333	C	33K	OHM	J 1/4W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R4340	ERDS2TJ223	C	22K	OHM	J 1/4W	R5306	ERDS2TJ333	C	33K	OHM	J 1/4W
R4341	ERDS2TJ331	C	330	OHM	J 1/4W	R5307	ERDS2TJ562	C	5.6K	OHM	J 1/4W
R4342	ERDS2TJ222	C	2.2K	OHM	J 1/4W	R5308	ERDS2TJ562	C	5.6K	OHM	J 1/4W
R4343	ERD25FJ270K	C	27	OHM	J 1/4W	R5309	ERDS2TJ563	C	56K	OHM	J 1/4W
R4344	ERD25FJ270K	C	27	OHM	J 1/4W	R5310	ERDS2TJ104	C	100K	OHM	J 1/4W
R4345	ERD25FJ270K	C	27	OHM	J 1/4W	R5311	ERDS2TJ561	C	560	OHM	J 1/4W
R5002	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5312	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5003	ERDS2TJ271	C	270	OHM	J 1/4W	R5313	ERDS2TJ104	C	100K	OHM	J 1/4W
R5004	ERDS2TJ151	C	150	OHM	J 1/4W	R5314	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5005	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5315	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5006	ERDS2TJ151	C	150	OHM	J 1/4W	R5316	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5007	ERDS2TJ151	C	150	OHM	J 1/4W	R5317	ERD25FJ331K	C	330	OHM	J 1/4W
R5008	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5318	ERDS2TJ103	C	10K	OHM	J 1/4W
R5009	ERDS2TJ183	C	18K	OHM	J 1/4W	R5319	ERDS2TJ103	C	10K	OHM	J 1/4W
R5010	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5320	ERDS2TJ103	C	10K	OHM	J 1/4W
R5011	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5321	ERDS2TJ102	C	1K	OHM	J 1/4W
R5012	ERDS2TJ331	C	330	OHM	J 1/4W	R5322	ERDS2TJ102	C	1K	OHM	J 1/4W
R5013	ERDS2TJ331	C	330	OHM	J 1/4W	R5323	ERDS2TJ102	C	1K	OHM	J 1/4W
R5014	ERDS2TJ103	C	10K	OHM	J 1/4W	R5324	ERDS2TJ333	C	33K	OHM	J 1/4W
R5017	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5325	ERDS2TJ333	C	33K	OHM	J 1/4W
R5018	ERDS2TJ104	C	100K	OHM	J 1/4W	R5326	ERDS2TJ333	C	33K	OHM	J 1/4W
R5019	ERDS2TJ221	C	220	OHM	J 1/4W	R5328	ERDS2TJ333	C	33K	OHM	J 1/4W
R5020	ERDS2TJ101	C	100	OHM	J 1/4W	R5329	ERDS2TJ222	C	2.2K	OHM	J 1/4W
R5021	ERDS2TJ561	C	560	OHM	J 1/4W	R5330	ERDS2TJ102	C	1K	OHM	J 1/4W
R5022	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5331	ERDS2TJ223	C	22K	OHM	J 1/4W
R5023	ERD25FJ102K	C	1K	OHM	J 1/4W	R5332	ERDS2TJ223	C	22K	OHM	J 1/4W
R5024	ERD25FJ331K	C	330	OHM	J 1/4W	R5333	ERD25FJ223K	C	22K	OHM	J 1/4W
R5025	ERD25FJ331K	C	330	OHM	J 1/4W	R5334	ERDS2TJ104	C	100K	OHM	J 1/4W
R5026	ERD25FJ123K	C	12K	OHM	J 1/4W	R5336	ERDS2TJ102	C	1K	OHM	J 1/4W
R5027	ERD25FJ123K	C	12K	OHM	J 1/4W	R5337	ERDS2TJ331	C	330	OHM	J 1/4W
R5028	ERDS1FJ100	C	10	OHM	J 1/2W	R5404	ERDS2TJ102	C	1K	OHM	J 1/4W
R5029	ERQ1CKPR47S	F	0.47	OHM	K 1W	R5405	ERDS2TJ151	C	150	OHM	J 1/4W
R5030	ERD25FJ102K	C	1K	OHM	J 1/4W	R5406	ERDS2TJ474	C	470K	OHM	J 1/4W
R5031	ERDS1FJ100	C	10	OHM	J 1/2W	R5407	ERDS2TJ683	C	68K	OHM	J 1/4W
R5033	ERDS2TJ561	C	560	OHM	J 1/4W	R5410	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5035	ERDS2TJ472	C	4.7K	OHM	J 1/4W	R5411	ERDS2TJ102	C	1K	OHM	J 1/4W
R5036	ERDS2TJ561	C	560	OHM	J 1/4W	R5412	ERDS2TJ152	C	1.5K	OHM	J 1/4W
R5037	ERDS2TJ104	C	100K	OHM	J 1/4W	R5413	ERDS2TJ392	C	3.9K	OHM	J 1/4W
R5038	ERDS2TJ332	C	3.3K	OHM	J 1/4W	R5414	ERDS2TJ221	C	220	OHM	J 1/4W
R5228	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5416	ERDS2TJ562	C	5.6K	OHM	J 1/4W
R5229	ERDS2TJ104	C	100K	OHM	J 1/4W	R5418	ERDS2TJ332	C	3.3K	OHM	J 1/4W
R5230	ERDS2TJ104	C	100K	OHM	J 1/4W	R5419	ERDS2TJ102	C	1K	OHM	J 1/4W
R5231	ERDS2TJ104	C	100K	OHM	J 1/4W	R5426	ERDS2TJ153	C	15K	OHM	J 1/4W
R5232	ERDS2TJ104	C	100K	OHM	J 1/4W	R5427	ERDS2TJ103	C	10K	OHM	J 1/4W
R5233	ERDS2TJ104	C	100K	OHM	J 1/4W	R5428	ERD25FJ472K	C	4.7K	OHM	J 1/4W
R5234	ERDS2TJ101	C	100	OHM	J 1/4W	R5452	ERDS2TJ224	C	220K	OHM	J 1/4W
R5235	ERDS2TJ101	C	100	OHM	J 1/4W	R5502	ERDS2TJ332	C	3.3K	OHM	J 1/4W
R5236	ERDS2TJ102	C	1K	OHM	J 1/4W	R5503	ERDS2TJ222	C	2.2K	OHM	J 1/4W
R5241	ERDS2TJ102	C	1K	OHM	J 1/4W	R5505	ERDS2TJ333	C	33K	OHM	J 1/4W
R5242	ERDS2TJ333	C	33K	OHM	J 1/4W	R5506	ERDS2TJ223	C	22K	OHM	J 1/4W
R5244	ERDS2TJ333	C	33K	OHM	J 1/4W	R5507	ERDS2TJ123	C	12K	OHM	J 1/4W
R5245	ERDS2TJ562	C	5.6K	OHM	J 1/4W	R5508	ERDS2TJ223	C	22K	OHM	J 1/4W
R5246	ERDS2TJ102	C	1K	OHM	J 1/4W	R5510	ERDS2TJ272	C	2.7K	OHM	J 1/4W
R5247	ERDS2TJ102	C	1K	OHM	J 1/4W	R5511	ERDS2TJ183	C	18K	OHM	J 1/4W
R5248	ERDS2TJ102	C	1K	OHM	J 1/4W	R5512	ERDS2TJ103	C	10K	OHM	J 1/4W
R5249	ERDS2TJ102	C	1K	OHM	J 1/4W	R5513	ERDS2TJ102	C	1K	OHM	J 1/4W
R5250	ERDS2TJ102	C	1K	OHM	J 1/4W	R5514	ERDS2TJ223	C	22K	OHM	J 1/4W
R5301	ERDS2TJ331	C	330	OHM	J 1/4W	R5515	ERDS2TJ822	C	8.2K	OHM	J 1/4W
R5302	ERDS2TJ331	C	330	OHM	J 1/4W	R5516	ERDS2TJ273	C	27K	OHM	J 1/4W
R5303	ERDS2TJ333	C	33K	OHM	J 1/4W	R5518	ERDS2TJ682	C	6.8K	OHM	J 1/4W
R5304	ERDS2TJ333	C	33K	OHM	J 1/4W	R5519	ERDS2TJ103	C	10K	OHM	J 1/4W
R5305	ERDS2TJ333	C	33K	OHM	J 1/4W	R5520	ERDS2TJ103	C	10K	OHM	J 1/4W

Ref.No.	Part No.	Description
R5521	ERDS2TJ102	C 1K OHM J 1/4W
R5522	ERDS2TJ102	C 1K OHM J 1/4W
R5601	ERDS2TJ564	C 560K OHM J 1/4W
R5602	ERDS2TJ474	C 470K OHM J 1/4W
R5603	ERDS2TJ223	C 22K OHM J 1/4W
R5605	ERDS2TJ822	C 8.2K OHM J 1/4W
R5606	ERDS2TJ182	C 1.8K OHM J 1/4W
R5607	ERDS2TJ334	C 330K OHM J 1/4W
R5609	ERDS2TJ222	C 2.2K OHM J 1/4W
R5652	ERDS2TJ102	C 1K OHM J 1/4W
R5653	ERDS2TJ471	C 470 OHM J 1/4W
R5654	ERDS2TJ222	C 2.2K OHM J 1/4W
R5659	ERDS2TJ123	C 12K OHM J 1/4W
R5660	ERDS2TJ472	C 4.7K OHM J 1/4W
R5661	ERDS2TJ562	C 5.6K OHM J 1/4W
R5662	ERDS2TJ103	C 10K OHM J 1/4W
R5663	ERDS2TJ123	C 12K OHM J 1/4W
R5664	ERDS2TJ222	C 2.2K OHM J 1/4W
R5665	ERDS2TJ682	C 6.8K OHM J 1/4W
R5666	ERDS2TJ822	C 8.2K OHM J 1/4W
R5667	ERDS2TJ222	C 2.2K OHM J 1/4W
R5668	ERDS2TJ221	C 220 OHM J 1/4W
R5669	ERDS2TJ223	C 22K OHM J 1/4W
R5674	ERDS2TJ273	C 27K OHM J 1/4W
R5675	ERDS2TJ473	C 47K OHM J 1/4W
R5676	ERDS2TJ471	C 470 OHM J 1/4W
R5677	ERDS2TJ564	C 560K OHM J 1/4W
R5703	ERDS2TJ273	C 27K OHM J 1/4W
R5704	ERDS2TJ102	C 1K OHM J 1/4W
R5705	ERD25FJ563K	C 56K OHM J 1/4W
R5706	ERDS2TJ473	C 47K OHM J 1/4W
R5707	ERDS2TJ183	C 18K OHM J 1/4W
R5709	ERDS2TJ222	C 2.2K OHM J 1/4W
R5712	ERDS2TJ103	C 10K OHM J 1/4W
R5713	ERDS2TJ392	C 3.9K OHM J 1/4W
R5714	ERDS2TJ103	C 10K OHM J 1/4W
R5715	ERDS2TJ103	C 10K OHM J 1/4W
R5716	ERDS2TJ123	C 12K OHM J 1/4W
R5718	ERDS2TJ123	C 12K OHM J 1/4W
R5720	ERDS2TJ123	C 12K OHM J 1/4W
R5721	ERDS2TJ182	C 1.8K OHM J 1/4W
R5722	ERDS2TJ392	C 3.9K OHM J 1/4W
R5723	ERDS2TJ272	C 2.7K OHM J 1/4W
R5724	ERDS2TJ123	C 12K OHM J 1/4W
R5725	ERDS1FJ101	C 100 OHM J 1/2W
R5726	ERDS2TJ332	C 3.3K OHM J 1/4W
R5730	ERDS2TJ472	C 4.7K OHM J 1/4W
R5732	ERDS2TJ682	C 6.8K OHM J 1/4W
R5733	ERDS2TJ472	C 4.7K OHM J 1/4W
R5734	ERDS2TJ123	C 12K OHM J 1/4W
R5735	ERDS2TJ223	C 22K OHM J 1/4W
R5739	ERDS2TJ392	C 3.9K OHM J 1/4W
R5740	ERDS2TJ103	C 10K OHM J 1/4W
R5741	ERDS2TJ183	C 18K OHM J 1/4W
R5799	ERG2SJ391	M 390 OHM J 2W

OTHERS

M58	NO18N	MICA SHEET (BIG)
K73	TES4537	SPRING(TR,IC)
K74	TES6583	SPRING(TR)SMALL
M59	TJB13966	8P PUSH TERMINAL

	Ref.No.	Part No.	Description
	M60	TJS1A4331	BNC TERMINAL W/SWITCH
	M61	TJS1A4341	BNC TERMINAL
⚠	K75	TJS1A5050	CRT SOCKET
	M62	TJS6A8010	PHONO PIN SOCKET(2P)
	M63	TJS6A8020	1P SOCKET
	M64	TJS6A8410	PHONO PIN SOCKET(2P)
	M65	TJS8A9040	4P CONNECTOR(DIN)
	M66	TNQ2665	REMOTE CONTROL RECEIVER
	M67	TUW13436	SWITCH BRACKET
	M68	TUW13918-1	CONNECTOR BRACKET
	M69	TUX14957	TERMINAL BRACKET LEG
	M70	TXAJTF01MDL9	FOCUS LEAD ASSY
	M71	TXAJTT1MDL9A	3P CONNECTOR ASSY
	M72	XTB4+10A	SCREW
	K76	XTV3+10AFZ	SCREW
	K77	XTV3+8J	SCREW
	M73	XTWT983G	SCREW
	M74	XYN3+C8	SCREW
	M75	XYN3+F12	SCREW
	M76	XYN3+J8	SCREW
	A5	TJS1A9790	6P CONNECTOR
	A6	TJS1A9790	6P CONNECTOR
	A7	TJS1A9830	10P CONNECTOR
	A11	TJS6A8160	10P CONNECTOR
	A12	TJS5A9420	8P CONNECTOR
	A13	TJS5A9420	8P CONNECTOR
	A14	TJS6A8160	10P CONNECTOR
	A15	TJS6A8570	9P CONNECTOR
	A16	TJS6A8560	4P CONNECTOR
	A17	TJS1A9760	3P CONNECTOR
	A18	TJS118610	4P CONNECTOR
	A23	TJS5A9490	6P CONNECTOR
	A24	TJS6A8160	10P CONNECTOR
	A25	TJS1A8140	8P CONNECTOR
	A26	TJS6A8570	9P CONNECTOR
	A27	TJS6A8160	10P CONNECTOR
	A29	TJS6A8160	10P CONNECTOR
	A31	TJS118600	3P CONNECTOR
	A33	TJS6A8560	4P CONNECTOR
	A35	TJS118590	2P CONNECTOR
	A36	TJS118590	2P CONNECTOR
	B1	TJS1A9790	6P CONNECTOR
	B2	TJS1A9830	10P CONNECTOR
	B3	TJS1A9810	8P CONNECTOR
	B4	TJS1A9790	6P CONNECTOR
	B5	TJS2A8350	6P CONNECTOR
	B6	TJS2A8350	6P CONNECTOR
	B7	TJS2A8390	10P CONNECTOR
	B9	TJS118670	10P CONNECTOR
	B17	TJS2A8320	3P CONNECTOR
	B20	TJS118590	2P CONNECTOR
	DL601	EFDEN645A61F	CERAMIC FILTER
	D1	TJS1A8120	6P CONNECTOR
	D2	TJS5A8170	4P CONNECTOR
	D3	TJS1A8140	8P CONNECTOR
	D5	TJS1A8160	10P CONNECTOR
	D7	TJS1A8080	2P CONNECTOR(L-TYPE)
	D14	TJS5A8530	10P CONNECTOR
	D15	TJS5A8150	9P CONNECTOR
	E20	TJS1A8140	8P CONNECTOR
	E23	TJS5A8760	6P CONNECTOR

	Ref.No.	Part No.	Description
	E24	TJS5A8520	10P CONNECTOR
	F7	TJS1A8080	2P CONNECTOR(L-TYPE)
	F10	TJS1A8090	3P CONNECTOR
	F29	TJS5A8520	10P CONNECTOR
	F33	TJS5A8170	4P CONNECTOR
	F001-1	TJC6320	FUSE HOLDER
	F001-2	TJC6320	FUSE HOLDER
	G2	TJS1A8080	2P CONNECTOR(L-TYPE)
	G26	TJS5A8150	9P CONNECTOR
	G27	TJS5A8520	10P CONNECTOR
	JK4101	TJS1A7200	HEADPHONE JACK
	J1	TJS118620	5P CONNECTOR
	L1	TJS118650	8P CONNECTOR
	L2	TJS118610	4P CONNECTOR
	L7	TJS118630	6P CONNECTOR
	L18	TJS118610	4P CONNECTOR
⚠	RL801	TSE1827	RELAY
	R1	TJS1A8120	6P CONNECTOR
	R7	TJS1A8160	10P CONNECTOR
	R9	TJS1A8160	10P CONNECTOR
	R11	TJS5A8520	10P CONNECTOR
	R12	TJS5A8350	8P CONNECTOR
	R13	TJS5A8160	8P CONNECTOR
	R20	TJS1A8140	8P CONNECTOR
⚠	S803	ESB99857V	SWITCH
⚠	S804	ESB99857V	SWITCH
	S3301	EVQR4AL13	SWITCH
	S4101	EVQQVC13G	SWITCH
	S4102	EVQQVC13G	SWITCH
	S4103	EVQQVC13G	SWITCH
	S4104	EVQQVC13G	SWITCH
	S4105	EVQQVC13G	SWITCH
	S4106	EVQQVC13G	SWITCH
	S4107	EVQQVC13G	SWITCH
	S4108	EVQQVC13G	SWITCH
	S4109	EVQQVC13G	SWITCH
	S4110	EVQQVC13G	SWITCH
	S4111	EVQQVC13G	SWITCH
	S4112	EVQQVC13G	SWITCH
	S4113	EVQQVC13G	SWITCH
	S4114	EVQQVC13G	SWITCH
	S4115	EVQQVC13G	SWITCH
	S4301	TSE10328	SWITCH
	S4302	TSE80391	SWITCH
	S4303	TSE80382	SWITCH
	W1	TJS2A8350	6P CONNECTOR
	W2	TJS2A8390	10P CONNECTOR
	W3	TJS2A8370	8P CONNECTOR
	W4	TJS2A8350	6P CONNECTOR
	W5	TJS1A8140	8P CONNECTOR
	W9	TJS1A8090	3P CONNECTOR
	W10	TJS1A8160	10P CONNECTOR
	W12	TJS1A8080	2P CONNECTOR(L-TYPE)
	X001	EFOGC6004A4	CERAMIC RESONATOR
	X601	TSS2002D	CRYSTAL OSCILLATOR
	X602	TSS2026M	CRYSTAL OSCILLATOR

Ref.No.	Part No.	Description